

SYSTEMS OF EDUCATION

ENGLAND GERMANY FRANCE AND INDIA

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ENGLAND GERMANY FRANCE AND INDIA

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INTRODUCTION

THE problems of education are receiving greater attention in every country to-day than they ever did before. Education is a progressive subject, in which the last word can never be said. In its broader aspects, it is a necessary part of good administration in modern times, and every administrative officer should acquaint himself with the work which is being done in schools. The doctor, the public works officer, the agricultural expert, the engineer are all concerned in education, because education aims at the betterment of the community and the harmonious ordering of its many-sided life.¹ However much we may differ in our political opinions, we all agree in thinking that a sound education is the key to success must always be a matter of equal concern for all political parties.

Every country has its own system of education, which being the product of its past history and its present condition, cannot be mechanically transplanted to another country, at the same time there are certain aspects of educational methods in every country which offer us fruitful suggestions which we shall be well advised to consider and adopt. I always kept this object in view during my travels in European countries.

I have described separately the English, the German and the French system of education. Each system has characteristics of its own and has developed according to the habits and economic requirements of the people. The training of character is the principal feature of the English system. It has produced men with self-reliance, commonsense and sound judgment, well trained in statecraft and resourceful in solving the difficulties of practical life. The world is governed by character and not by science. It is due to their superior character training that the English have succeeded in driving away the French and other nations whenever and wherever they have come into conflict. An English Master once said, "We English act first and explain afterwards."

¹ *Four Essentials of Education* by Josiah J. J. with an Introduction by Sir Michael Sadler

if it seems necessary." But the English system is not well co-ordinated on account of the diversity of its origin and control. The difficulty has now been realised, and before long schools and colleges of different grades will be brought under a common authority and their education regulated with care.

The German system differs from the English system both in general organisation and programme of work. The Germans are a very industrious people. The working time-table of the schools covers from 30 to 40 hours a week. Education is well co-ordinated, and schools of every grade are maintained by the State. Moreover, not only general but technical education is compulsory, and every one is trained to be a specialist in his subject. Germany is, in fact, suffering from over-specialisation, and persons having command of any subject as a whole are wanting in every walk of life. The German nation is a disciplined body and can act very promptly under a Bismarck or a Mussolini. The strongest point of the German system of education is the intimate relation between the Universities and Industry, which has been described in detail in Chapter II. England reserves her very best men for research and awards University degrees to most students on the results of examinations on a prescribed syllabus. Germany, on the other hand, expects every student to do some research work, and no degree is awarded on book-reading alone. On account of the industrious habits and the highly specialised instruction given to the people, coupled with the daily research carried on in the laboratories attached to the factories, universities, and the technical colleges, it is becoming difficult for any European country to compete successfully with Germany in the field of industry.

The French are the most intelligent. They are quick to understand and grasp a subject, but too easy-going to take prompt action. Their system is very thorough, and they give preliminary scientific education even in professional and technical colleges. The training colleges for teachers, as well as the engineering colleges, include subjects of general culture. Several Germans, who have been on active field service, told

me that French officers on account of their superior scientific education shot better with their comparatively bad weapons. Their system of education and their method of recruitment for the administrative service as well as for admission to schools and colleges where accommodation is limited are superior to those of England and Germany. France has large Boarding Schools. They are like English Public Schools but their system of discipline is very different. In England the teachers are in charge of hostels they throw greater responsibility on the students who thereby receive the impression that they manage all the affairs themselves. In France the hostel staff is different from the teaching staff and the boys do not find a single moment when they are left to themselves without the supervision of an invigilator. The Boarding Schools in Germany are private institutions and are still in an experimental stage the military spirit predominates in school discipline.

The English tutorial system for supervising the studies of younger students at the universities has no parallel in any other country but the manner in which the senior students are taught and examined is far from being the best and is distinctly inferior to that of Germany. America and Japan are both trying to adopt the English system for the under graduate teaching and the German system for post graduate work. An American, giving his own impression of the educational system in the three countries said. The English system lays stress on games that of France on learning and that of Germany on knowledge although apparently, always subordinated to obedience and order. I may add that the Indian system favours cramming and superficiality and is only intended to produce clerks.

Examinations have great influence on the teaching and the life of students. In England for a long time the examination syllabus, prepared by external examining authorities, was the only guidance for teachers and students. The evils of examinations though eradicated to a certain extent in recent years are still there cramming being the most important of them. In India these

country that persons turned out by the old schools were more thorough and that the knowledge of students now produced by English schools and colleges is superficial and sometimes defective. This superficiality is due not so much to the Western method of education as to the Indian system of teaching and examination. Teaching is here entirely subordinated to examination; utility in examination is the only criterion which both teachers and students keep constantly in mind, and they take no interest in any problem which is not likely to be useful in examination. A student, who wrote three words out of five incorrectly, would have been condemned by the old Indian schools and his teachers would have taken every care to improve his spelling. In the present Indian system of examinations, such a student, to the satisfaction of his teachers as well as of his parents, would be declared successful in the second division. An Indian examiner, whose judgment is controlled by a set of elaborate rules, will give a certificate of counting to a student who makes three mistakes out of every five in addition, though such a student, in spite of his certificate has no market value in business. The solution of the difficulty does not lie in increasing the pass marks from 40 to 80 per cent, but in a change of the system. I have described the English, German, French and Italian systems² of examinations, of which I believe the Italian system of appointing an examination commission for each centre will best suit the present conditions of India. The Italians have introduced this system after the War. It is a modification of the French system. The German system of examination resembles the one we followed for centuries in India, but it will not suit the needs of our times, for it presupposes the existence of a class of teachers well educated and thoroughly trained, which unfortunately does not exist at present.

Our system of examination is not the only example of bad imitation of the English system. In fact modern education in India was developed on the line of the English system as it existed in the last century, evils are aggravated. There is a general belief in this

² See Chap I, Sec 18, Chap II, Sec 19, Chap III, Secs 10 and 11

England has rectified the defects, but in India we are still attempting to perpetuate the old and effete system.

The first question which we should decide in India—who is responsible for education? The State³ or the people? Our whole educational policy will depend on the answer to this question. No sound system of education can be devised till this principle is settled. The joint responsibility of the State and the people means diarchy in education, which is bound to be even more disastrous than diarchy in political administration for its evil effects do not become visible to the people till it is too late to find a remedy. A constitution for the government of a country, however sound it may be, will never work, until it provides sound education for the people. It is indeed truism that no country can ever advance without education but it must be admitted that education alone is not sufficient for its progress.

The State has undertaken the responsibility of safeguarding the life and property of the people and has provided adequate machinery for the purpose but it has not yet accepted as a part of its duty, the bringing up of its subjects as educated and useful citizens. The people also have not yet realised the importance of the problem. A demand is made from the platform and in the Councils for free and compulsory education but the State and the people leave to each other the responsibility of thinking out a plan—who should do it? how should it be done? who is to finance it? what should we teach? and how should the teachers be trained? Another example of the joint responsibility muddle is the system of secondary education. Most of our secondary education is imparted in private schools supported by Government grant, the maximum of which, fixed at half the total expenses of the institutions, is rarely given. Only those communities which are rich enough to raise half the expenditure and have the ability to manage their high schools have profited by it. The natural consequence will be the strengthening of oligarchical elements in India. The State at present does not consider itself responsible for

³ I include both Imperial and Provincial Governments and Local authorities in the term State.

seeing that High Schools in each locality should have accommodation sufficient for the needs of the locality. The present policy of the State is misunderstood by the people. They imagine that the Government desires them to take the responsibility for all forms of education, with the possible exception of primary education, and reserves to itself the power of putting as many obstacles in the way as it possibly can. In Germany and France the State is responsible for all education, in England University education is the only branch still outside the State responsibility and supervision but before long it will also come within the supervision of the State.

In India the State should consider the provision of proper education for the people in all stages as one of its established duties and then most of the existing educational and communal troubles will come to an end. It is the common experience of India as well as of all Western countries that educational institutions not maintained by the State are mostly denominational. In England schools were first established by religious organisations and a conscience clause was added afterwards. Every community in India will be compelled (as we are being compelled now) to set up its own organisation for collecting funds and to run its own educational machinery by holding conferences and organising committees and sub-committees. This will naturally lead every community in India to organise its own cultural societies and enlist volunteers or militia for the collection of funds for educational and other philanthropic purposes. A demand for cultural autonomy on the lines of the modern Central European States will be irresistible. The autonomy granted by the Esthonian Government to various nationals inhabiting the country is considered by the Germans to be an ideal one. Every community will become an *imperium in imperio*, and its organisations in highly developed forms will retard national growth. The State responsibility of all forms of education as in most countries in the West, is the only solution of the difficulty.

A comparison of Indian with European education will show that education in India was in every way

superior in education imparted in the schools and colleges in Europe till the sixteenth century. The Renaissance of the sixteenth century improved the system of education in the West and in the seventeenth century we find that the two systems were on the same level. With the introduction of machinery and the application of science to industry, agriculture and commerce, Western education took a distinct lead. While Indian scholars continued to ponder on the old theory of Metaphysics and to acquire knowledge for its own sake, Western scholars concentrated their attention on the application of knowledge to the material welfare of the race. So Eastern education was left behind. France has recently recognised the importance of the industrial aspect of science. In all public examinations in French schools, every student is required to submit a dissertation on the application of science to industry, commerce or agriculture and this fact is noted on his certificate. Any system of education in which ample provision is not made for the practical application of sciences to practical problems is a century-old system and can not be put on the same level with modern European education.

This new system cannot be implanted in India in a day, and a large number of Indian students will be compelled to go to foreign countries for advanced study in every branch of learning and particularly for the applied sciences. Unfortunately Indian students get very little information about European institutions for higher learning. The Indian Government established a few years ago advisory committees in every province with the object of supplying necessary information to students intending to go to Europe. This machinery is defective and it is desirable that more satisfactory arrangements be made for giving useful information to the students desiring to go to foreign countries. I have discussed the matter in detail in Chapters I and V.

In Europe by unemployment one understands the unemployment of the working classes. In India it means the unemployment of the literate lower middle classes. These unfortunate students were trained to become clerks and their education does not fit them for any other walk of life. They cannot all get employment on account of the

limitation in the number of posts. The existence of a large number of unemployed educated persons will always be a source of danger to the society and the State, and the change of the educational system and ideal is the duty of every person interested in the advancement of India.

The educational system of our country is in a very chaotic condition and its thorough reorganisation is the most pressing need of the hour. An Education Committee has just been appointed by Sir John Simon, but as was pointed out by the *Educational Supplement* to the *Times* in August 1928, its terms of reference are so limited and the time at its disposal so short that it can not be expected even to touch all the important aspects of Indian education. I have added a chapter in the end offering suggestions to Indian students who desire to go to Europe for further study. I have made no attempt in this book to describe the manner in which a particular subject should be taught. This requires specialised knowledge and would need at least two volumes of the size of the present book for each subject. I have examined the recent changes in the teaching of Mathematics in English, French, German and Italian schools. These four countries represent different trends of thought. Though mathematical processes and formulæ remain unchanged, the manner and order of their presentation substantially differ from country to country. In India, unfortunately, we still follow the method which prevailed in England in the latter half of the last century. Different branches of Mathematics are treated as watertight compartments, filled in with examples which have no application outside the class room and do not even touch the outer boundary of commonsense.

Consideration of space has compelled me to restrict myself to a general outline of the Indian system on the same lines as I have adopted for the systems of England, Germany and France. A more detailed discussion of the educational problems in every province of India is reserved for a later book.

I regret my inability to speak from personal observation on the educational system of the United States, where a variety of educational experiments are being carried on at the present day.

CHAPTER I

THE EDUCATIONAL SYSTEM IN ENGLAND

SECTION I

Present Position

The Great War substantially affected the social, economic and political conditions of every country. New forces came into existence leading to the development of an entirely new situation. Real power passed from the hands of individuals into those of the people. Since duties and responsibilities always go hand in hand with power, it is incumbent on every citizen whatever his (or her) social status to realise the responsibilities which good administration and good Government impose. Everyone now feels that he is not a mere spectator but an active worker in the national life of his country. War compelled scientists in every country to invent time saving machines and to use quicker and more improved methods of communication. All these machines are now used in every-day life. The work which was formerly done by unskilled labour is now done by machinery for which skilled labour is necessary. Even such work as cleaning boots, dusting rooms and furniture, washing plates, peeling vegetables, cutting bread is now performed by machines worked by electricity. Household servants, street labourers and even shopboys are expected to be able to use, if not repair, machines. In all democratic countries working men, who form the majority of the population naturally desire a reasonable standard of comfort and a higher standard of education. Labour demands that higher education should not be the exclusive privilege of the rich; it should be open to all, and the capacity to attain it should be the sole criterion for its acquisition. Moreover, during the War, men were engaged in active field service and the civil administration of offices was left to women, who now firmly hold the position thus

conceded to them, and are not inclined to give up now what they acquired. They have secured the political franchise and have obtained facilities in education equal to those enjoyed by men. Their number in secondary and higher education is rapidly increasing and they are enlisting themselves even in the police service. It was discovered that persons of better education went through the ordeals of war better than uneducated persons. They were more resourceful and overcame difficulties with greater ease. Good education is therefore necessary even for the common soldier as a means of improving his efficiency. It has, in fact, become a necessity of life.

Sir Michael Sadler has expressed the same ideas in the following words —

“ We may say that five things are distinctly characteristic of the present age: the emotion of nationality, the new applications of science to means of communication, to the methods of wealth-getting, to recreation and to war, the wage-earner's demand for a larger share of the wealth which he helps to produce, sensitiveness to ‘ colour line ’ and its political implications, belief in the power of education—a belief which in some minds has the intensity of religion ”¹

The old type of education is criticised as not being suited to the present age. The Ministry of Munitions in a pamphlet criticising the methods of teaching in schools, says, “ In the elementary educational system, the clerk-type is too often held up to the boy as the ideal type which is probably due to the fact that teachers are largely ignorant of industrial organisation and method. The quiet, studious boy is the pattern and example. He is given greatest attention and care by his teacher. He represents the line of least resistance. The boisterous spirit is quelled or, proving unrepresible, is sent to a reformatory ” It is now maintained that liberal education should not be confined to the reading of books, but should provide opportunities for putting knowledge into practice. The division of education into primary, secondary, and technical branches, each branch governed by its own special rules and regulations and controlled

by different authorities is considered unscientific and academically unsound. The Committee on the Education of the Adolescent says: 'We note that the existing division of education into elementary, secondary, and technical, is losing its rigidity and hope that the artificial barriers between these three divisions will rapidly disappear.'² The old fashioned distinction between liberal and bread and butter education is fast disappearing. Does not history studied with the object of passing the I C S and other competitive examinations become a bread and butter subject? The teaching of even utilitarian subjects such as wood work can be humanized. Instace Perex has said that the illogical barriers which often exist between what is called technical education and what is known as liberal education are breaking down and that the cultivation of mind may advance hand in hand with the requirements of technical skill and technical knowledge. The division of knowledge into liberal and technical is only artificial both are utilitarian but have cultural values. Knowledge should be divided into humanistic and realistic sciences and not into Arts and Science nor into liberal and technical subjects. The study of realistic as well as humanistic sciences should be intermixed in the programme of education and every child should know something of both.

The traditional system which has fallen into disfavour is being replaced by a new one which is still in the process of formation and has not been definitely crystallised.

According to the new system every child will have to attend an elementary school till the age of ten or eleven. These schools like the *Grund Schule* of Germany³ and the *Ecole unique* of Switzerland, are likely to be the same for all. At the age of eleven separation will begin, and children will be transferred to the Secondary Schools of two types *Central Schools* providing education upto the age of 15

² Recommendation 29 p 180.

³ See Ch II Sec 6

or 16 to the majority of the children, and Higher Schools (including Public Schools and Grammar Schools) which provide education for children up to the age of 18 or 19. These schools lead to University Education. Provision will also be made that intelligent boys from Central Schools receive further education in polytechnics in selected Central Schools and in a few High Schools maintained by the Local Education authorities for a period of two or three years to enable them to pass the University Matriculation Examination. Children in the Central Schools will not be debarred from University Education. Central Schools will have parallel courses in a variety of subjects. All primary and secondary schools maintained by public funds will be entirely free and the schools on the grant list will admit 30 to 40 per cent free scholars.

Technical and liberal education will be replaced by Realistic and Humanistic Sciences in the same or different Secondary Schools, and both the types will lead to University Education. All higher instruction has already been centralised in the Universities and, to cope with the increasing demand for higher education, new University Colleges in and outside the University towns will be established which may ultimately develop into independent Universities. The University Matriculation Examination will have a variety of alternative subjects, so that the students from higher trade schools⁴ may be able to join a University and read for the B Sc (tech) degree. Business firms are now taking increasingly greater interest in the education of artisans and foremen. They are members of the governing bodies of the schools, assist in framing their courses and also conducting their examinations. In England their connection, however, is not so intimate as in Germany. Improvements are being made in the system of examinations which are now becoming tests of intelligence rather than of the capacity to reproduce undigested matters.

These ideals have not yet been achieved, but there is an unmistakable movement in this direction.

4 See Sec 11

SECTION 2

General Organisation

From mediæval times to the early years of the nineteenth century education was provided mainly by religious organisations, and religious instruction naturally held a prominent place. Schools and colleges met their expenditure from endowments, private beneficences and fees. All school endowments passed under the control of the State-Church under the Act of Uniformity of 1662. In 1833 the Parliament voted £20,000 for public education. Up to that time there had been no State department of education and the educational grants were administered by the Treasury. In 1839 the duty of supervising the administration of the State grant (now £30,000), was entrusted to a special committee of the Privy Council which was known as the Education Department. The work of this committee expanded under the Forster Act which made elementary education compulsory for all. An important change in organisation occurred under the Balfour Act of 1899, by which a Board of Education was created under a Cabinet Minister known as the President of the Board of Education. This new name was introduced in order to distinguish it from the Old Education Department which in reality was only a Sub Committee of the Treasury. The Balfour Act was followed by the important Act of 1902 which created Local Education Authorities in counties and boroughs.

The Fisher Act of 1918 is a landmark in the history of educational development in England⁵. It contemplated the establishment of a national system of public education available for all persons capable of profiting by it. The Act provides education practically for all the stages of life, from the cradle to the grave although adult education is not specifically mentioned, it is undoubtedly affected by certain clauses. The Act contemplated a large expenditure of money on education, and it was argued that if England could afford to spend so freely on

⁵ *Guide to Education Act 1918* by K. E. T. Wilkinson; and *Working Out of the Fisher Act* by Basil Year-lee.

the work of destruction, there was no reason for needlessly restricting expenditure on the worthier work of reconstruction ⁶ The Act was received with great admiration all over the world, but was unfortunately not put into force The Geddes Parliamentary Committee advocated a reduction of 18 million pounds in the educational budget

Mr Powell has summarised the situation in the following words " The reasonable demand for economy has unfortunately been converted by reactionaries, and those who are, and who have always been opponents of popular education, into a demand for the ruthless cutting down of expenditure upon the most necessary of national services In many quarters, the campaign for economy had become a campaign against education as such." The Act also made sweeping changes for which the country was not yet prepared

England is divided into Counties and Boroughs,⁷ each administered by a council The County Councils correspond to District Boards and the Borough Councils to Municipalities in India London, on account of its size and importance, is given the rank of a county Each County and Borough Council is compelled to elect an Education Committee under the Act of 1902 This committee is referred to as ' Local Education Authority ' (L E A) in the Act The number of such authorities is 388 ⁸ All matters relating to the exercise of the council's powers under the Education Acts, except the power of imposing a tax or borrowing money, are referred under the statutes to the Education Committee

The Board of Education has an Advisory Committee consisting of 21 members nominated by the President The Minister consults the committee in all important matters The Board appointed an important committee in 1917 under the name of the ' Secondary School Examination Council,' which exercises a general supervision

⁶ Expenditure per head on elementary education in 1919-20, £10 11s, Expenditure per head on drink £14 12s, Expenditure per head on tobacco £6

⁷ The corresponding German names are *Gemeinde* and *Stadt* or country and town areas

⁸ The number of L E A for higher education in England and Wales is 158

over the High School final examinations and periodically scrutinises the examination papers of different Universities for standardisation and the detection of weaknesses. The Board has also instituted an information department under an officer called Secretary of Special Enquiries and Reports.⁹

The Universities are still outside the jurisdiction of the Board of Education and are supervised by a special committee of the Treasury which is called the Grants Committee. Its constitution and method of working is described elsewhere. The Agricultural Colleges which are now attached to Universities as affiliated or constituent colleges are maintained by the Board of Agriculture. All other institutions are under the control of the Board of Education. The Board does not maintain its own institutions but gives grants to Local Education Authorities according to the fixed rules described in Section 15. These authorities exercise control over all the institutions lying in their territorial jurisdiction and give (in most cases) small grants to the Universities. The grant given by several Educational Authorities is in addition to that awarded by the Grants Committee of the Treasury.

The Board of Education has its own Inspectors who hold inspections in co-operation with the Inspectors appointed by the Local Education Authorities.¹⁰ I was told that on account of the good sense of individuals the dual system of inspection does not lead to any friction between the two sets of Inspectors.

Funds—The British System of allocating funds between the Central Government and the Local Authorities is similar to the Indian System. Customs and income tax are reserved for Central Government and are called taxes. Funds realised by levying taxes on houses called Rates are given to local authorities and collected directly by them. Taxes are levied at a uniform scale throughout the kingdom but rates are different in

⁹ The Secretary Mr A. R. Alsworth very willingly answers all enquiries concerning education in the United Kingdom and the British Empire.

¹⁰ See Ch. I. Sec. 16.

different localities This differentiation is a grievance in places where rates are comparatively higher The total charge on public funds for education is over 80 million pounds of which about three-fifths is paid out of taxes and two-fifths from rates. This sum of 80 million does not represent the total cost of education, as it does not include the income from fees, endowments, and donations, nor the expenditure on special institutions such as the Military Schools If we include these items, the expenditure will be over 100 million pounds, *i e*, about 115 crores of rupees

The expenditure on education has gone up by leaps and bounds since the War, partly on account of the expansion of education and partly owing to the rise in salaries The cost of elementary education has increased $2\frac{1}{2}$ times, *i e*, from $25\frac{1}{2}$ million before the War to $61\frac{1}{2}$ million at present. In secondary education, the expenditure has increased $3\frac{1}{2}$ times, from $4\frac{1}{2}$ to $14\frac{1}{2}$ million. The cost of education per pupil has increased from £95 to £248 per annum The population of Great Britain is about 44 million of which about 5 million are Scotch The entire population is less than that of a single Indian Province The area of Great Britain is about 90 thousand square miles, of which Scotland is one-third.

The following three sections will give an idea of the educational organisation of Local Authorities. The London County Council, the Kent County Council, and the Cambridge Borough Council have been selected for illustration

SECTION 3

London County Council

The administrative County of London extends over an area of 120 square miles, containing a population of four and a half million It is closely surrounded by an outer zone of another $2\frac{3}{4}$ million, called greater London, administered by the neighbouring Local Education Authorities The dividing line is neither geographical, nor industrial it depends on the statutory authority.

Council has tried a new experiment. It has appointed special officers called ' School Attendance Officers,' who work in co-operation with the Head Masters. They visit the parents of irregular children and use persuasive means before taking any drastic legal action. This has very much improved attendance in schools.

The school curriculum has also undergone considerable change. A foreigner on arriving at an English Elementary School, naturally asks for a copy of the curriculum, and expects a booklet giving details of all the courses of study for all the schools of that city, if not of the whole country. He is referred however, to a poster on the wall which represents the curriculum and the time-table for that particular school which may not have its like in the world anywhere. The same freedom is enjoyed by each school in the selection of text books and in the methods of teaching.

It has now been recognised, as has been said in Section 1, that instruction in Arts and Crafts has a cultural value also. The experiment of devoting considerably more time to practical work proved a great success in London. In many schools a variety of industrial subjects, such as rug-making, building construction, and needle-work of every description, are taught, and the pupils after leaving the school secure employment as skilled labourers. The desire of giving an industrial and commercial bias to the education of children has led to the evolution of the new type of schools, known as the Central Schools.

The idea of starting these schools was borrowed from the continuation schools (*Fortbildung Schule*) of Munich.

In the city of London there are at present 74 Central Schools which teach 23,300 children. The boys and girls are admitted at the age of eleven on the result of a competitive examination. It is contemplated to raise the number of these schools to 100, so that the selection by competition may no longer be necessary.

Secondary Schools—In London there are over 100 Secondary Schools with an enrolment of nearly

12 000 pupils i.e. 9.1 per 1 000 of population. It is contemplated that by opening more schools the proportion will be raised to 10 per 1 000 next year¹⁶. In nearly all Secondary Schools which have recently been developed from old-fashioned Grammar Schools, the classical languages occupy a prominent place in the programme of instruction but in the new Secondary Schools English literature holds the first place on a cultural basis¹⁷. Specialised provision both for staff and equipment is another prominent feature. The schools charge fees from £1 to £6 and 10 per cent of the pupils are free scholars¹⁸.

The cost of Secondary education in London is met at present by tuition fees rates and taxes in equal proportion.

The higher work in technology is carried on in the constituent colleges of the London University but there are in addition technical institutions of various types known as Polytechnics Monotechnics Trade Schools Commercial Institutes and Day Continuation Schools a detailed description of which is given elsewhere. The number of such technical and professional schools in London is 257 teaching 201 540 pupils.

SECTION 4

Education Committee in the County of Kent

The local education authority in the County of Kent is called the Kent Education Committee it consists of forty nine members of whom thirty three are members of the Kent County Council four ex-officio, and twelve outsiders. They are all elected by the County Council. The Chairman of the County Council and the Chairman of the Finance Committee are ex-officio members of the Education Committee which has eight permanent Com

16. According to the labour policy the number should be increased to 20 per 1,000 see Sec. 19.

17. They correspond to the *Gymnasiums* and *Aufbau Schule* in Germany.

18. According to the Labour policy this number should be increased to 20 per cent.

mittees for (1) Elementary education, (2) Secondary and University education, (3) Juvenile Welfare, (4) Agricultural education, (5) Finance and general, (6) Buildings, (7) Stores, and (8) Libraries

The principal administrative officers are a Director, two Inspectors for Secondary education, three for Elementary education, two Medical Officers, three Inspectors for special subjects and a Stores Superintendent

Statistics —The total expenditure, recurring and non-recurring, on education in the Kent County with a population of 575,346¹⁹ is 1½ million pounds²⁰ The County population is scattered in villages and small towns covering 1,448 square miles, and out of this 105,000 people, including grown-up men and women in special schools, are under instruction

The Kent Committee possesses 437 Elementary Schools, teaching 76,092 children with an expenditure of £859,093, more than half of which (£486,071) is paid by the Board of Education as a grant

It has forty Secondary or High Schools teaching 17,614 children with an expenditure of £628,946 of which about half is received from the Board Of the forty High Schools, nineteen are reserved for girls, two are mixed, and the remaining nineteen are for boys The number of boys and girls in High Schools is nearly equal

Besides the Primary and Secondary Schools the Committee maintains three Polytechnics, thirteen Technical institutes, eight Junior Technical Schools and eleven Art Schools

District Committees —It is not possible for the Education Committee or its sub-committees to enforce the Compulsory Education Act or to supervise schools situated in large areas The work is divided among the district committees In the County of Kent there are twenty-two district committees A district committee consists of not less than thirteen and not more than

¹⁹ The population of the whole County is 1,117,929, of which 542,583 reside in big towns, having Borough Councils of their own The County Council cares for the remaining 575,346

²⁰ The correct figure is £1,499,749

twenty-one members eight of whom should be members of the Education Committee. The powers and duties of these committees are (a) to act as the Governing Body of every school maintained by the State except primary schools (b) to suggest the method of working in secondary technical and other special schools (c) to give advice on the general policy of elementary education and (d) to award prizes exhibitions bursaries and scholarships. The Head Masters of the Secondary and higher institutions are appointed by the district committees subject to confirmation by the Education Committee of the Council and the assistant masters are appointed by the Head Masters subject to the approval of the district committees.

Managing Committees of Primary Schools—The primary schools are situated in small out-of-the-way villages and are not within easy reach of the members of the district committees which meet at important centres. Each primary school has a managing committee consisting of six members and sometimes several schools are put under the same managing committee. The primary schools are divided into two classes known as (a) Provided and (b) Non Provided. The latter were the Church Schools maintained by endowments or voluntary contributions under the old regime. The managing committee of the Provided Schools consists of six members, four of whom are appointed by the Education Committee of the County and two by the Parish of the village. Of the six members of the managing committee of Non provided Schools, four are appointed under the trust deed, one by the Education Committee while the sixth is the representative of the local Parish.

The Juvenile Welfare Committee mentioned above does very useful work in securing appointments for boys and girls who leave school at the age of fourteen. It publishes pamphlets dealing with the requirements and the methods of recruitment in the various departments of the State and industries at home and abroad. These pamphlets about thirty in number, will serve as useful models for any service-securing association. The

members of the committees periodically visit schools and hold conferences with the parents and teachers about the future occupation of their children

The Library Committee maintains about 350 libraries at various centres for the up-keep of which it gets a grant of £11,755

The Stores Department provides the necessary materials required by each school. The contingency grant allotted to a school is not paid in cash or spent directly by the Head Master. He gets everything he requires from the Stores Department, the cost being debited to the account of his school. The advantage of this arrangement is that a school can purchase the very best things at wholesale prices. A buying expert purchases all the articles on behalf of the County and the articles are supplied to each school by the Store-Keeper.

Syllabus of studies—In the County of Kent, as everywhere in England, a detailed syllabus is not prescribed for schools. The old system of marking out a complete chart of instruction, often distributed over weeks and months, has been entirely dispensed with, and the Head Masters are given full liberty to adopt with necessary modifications, the general directions sent to them. The prospectus is no longer called the syllabus of studies, but ' suggestions to teachers '. It is explicitly mentioned on the title-page of the prospectus that " the Syllabus, etc., contained in the Handbook are intended to be suggestive only, and the Kent Education Committee do not expect that they should be universally adopted as they stand. They hope, on the contrary, that the handbook will serve not to repress, but to encourage originality of treatment on the part of teachers "

Suggestions to teachers are issued by the Education Committee of Kent in separate pamphlets for the teaching of all the subjects taught in Primary, Secondary and Technical institutions. The subjects dealt with in the books of suggestions include Engineering, Commercial, Sanitary and Architectural subjects, Mathematics, History, Geography, Languages, Literatures

and Drawing. A detailed description of the methods suggested for teaching even some of these subjects is outside the scope of the present work.

Every effort is made to encourage teachers to carry on educational experiments so that each school may develop its own individuality. No school is a replica of another. No two schools of the same grade teach the same subject in the same manner; they adapt their teaching to the environment of the school and the requirements of the people for whom the school exists. I discussed the matter with the teachers in Kent and elsewhere and they all condemned the old method of teaching prescribed books followed by a public examination based on a fixed syllabus. Such a teaching degenerates into book learning and cramming becomes the order of the day. It kills originality and produces clerks who can only copy the ideas of others. The teaching of things is more important than the teaching of words and the ideas obtained from books should always be translated into action.

A characteristic feature of the County of Kent is its system of Rural Education which is described in detail in Section 7.

Experiments in the use of broad-casting are being made. The French classes I was told were successful. But in Radio-instruction the boys can only hear the words and cannot themselves see the things; it therefore cannot be a substitute for the teacher.

The technical schools specialise in light metal work, jewellery, chainelling on metals, wood-carving, embroidery, lace-making and decorative leather work.

SECTION 5

The Borough Council of Cambridge

The Borough of Cambridge is not an industrial town and higher education in the town of Cambridge is maintained by the University which receives no grant from the Borough Council. Several colleges in Cambridge maintain their own Elementary Schools for

the training of chor-boys for the college chapel. The expenses on education, consequently, are not so heavy as in a big industrial centre. The population of the Cambridge Borough is 59,262 and the total expenditure on education amounts to £84,586, of which more than half (£43,983) is contributed by the Board of Education. The Borough of Cambridge spends $22\frac{1}{2}$ per cent. of its total income on education. The total number of children under instruction is 7,016, *i.e.*, $11\frac{1}{2}$ per cent. of the total population. The Borough of Cambridge has no polytechnic, but it has a school of art, craft, and technology where instruction is given in Commerce, Engineering, Printing, Wood-work, Painting, Designing, Domestic Crafts and other technical subjects, is not of the University standard. The Borough has a Central School which is a good specimen of its kind, and is described in Section 8. In this school, boys and girls are taught separately in the same building. There are 410 boys and 410 girls in this school which is maintained at an expense of £17,850.

SECTION 6

Primary Education

It has already been explained in Section 2 that till the middle of the last century education was imparted almost entirely by religious organisations. The primary schools, called Church Schools, were maintained by public endowments. All school endowments were transferred to the Church in 1662. In 1870 the Parliament passed the first important Education Act, known as the Forster Act, whereby elementary education became compulsory, and school boards were elected to supplement elementary education provided by religious organisations. Each board was aided by the State and charged fees. The work of instruction was co-ordinated by the Education Department. In 1891 a further Parliamentary grant enabled the School Boards and the Managers of voluntary schools to provide free education. In London, Board Schools were made free in 1905. The Act of 1918 made it illegal for public elementary schools to charge

fees either for instruction or for school materials. Thus at present it is not only illegal for the educational authorities to charge fees but also for parents to make any payment for instruction given during school hours. Elementary education is both free and compulsory upto the age of fourteen. The Fisher Act of 1918 has empowered educational authorities to extend the compulsory age limit to fifteen. This is now under contemplation and the education programme is being drawn up accordingly. The Labour Party desire it to be extended even to the age of sixteen. The compulsory age limit in Germany is fourteen but it is followed by compulsory part time attendance in a technical or professional school for a further period of three years. In France intelligent boys can leave earlier if they pass a public examination.

Statistics—The number of primary schools in England and Wales with a population of 38 million is 21,336 having accommodation for seven million children but the number in actual attendance is about six million. They are maintained at an expense of over seventy two million pounds. Over two-hundred thousand teachers are employed in these schools of whom about three-fourths are women.

Provided and Non Provided Schools—The primary schools are divided into two categories known as Provided and Non Provided Schools which educate an almost equal number of children. The Non Provided Schools are the old Church Schools which were originally established by religious organisations and during the latter half of the last century were given liberal grants in order to improve their efficiency. They are now under the purview of the Local Education Authorities who are responsible for their maintenance. The Provided Schools were established by local boards after the Compulsory Education Act of 1870 with the object of supplementing the Church Schools. The syllabus of studies in both Provided and Non Provided Schools is the same and they are governed by the same regulations. The salaries of teachers also are the same. The Local Education Authorities have taken charge of

Church School buildings and their endowments, but the managing bodies of these schools include four members elected according to the terms of the trust deed. They are, consequently, denominational bodies, but they also have two other representatives, one elected by the Education Committee, and the other by the local parish. These schools originally imparted compulsory religious instruction of a denominational character. A "conscience clause" was added after a long controversy when they received grants from the local boards. In view of the "conscience clause" parents are at liberty to withdraw their children from denominational religious instruction, if they desire to do so. In the Provided Schools also religious instruction is compulsory, but it is not of a denominational character. The common worship is not less solemn in the Provided or County Schools than in the Non-Provided or Church Schools, but it is required by law (Education Act, 1921, Section 28), that religious instruction shall include "no religious catechism or religious formula which is distinctive of one particular denomination." It comprises the reading of parts of the Old and the New Testaments, and follows progressively the course of religious instruction suggested in the syllabuses recently issued by the West Reading and Cambridgeshire Education Committees.

Religious Instruction—Religious instruction, like instruction in secular subjects, is compulsory in all the schools, 'Provided' and 'Non-Provided'. As mentioned above parents have a right, under the Compulsory Education Act, to withdraw their children from religious instruction of a denominational character, but they cannot withdraw them from secular subjects. The teachers of religious subjects are all paid by the State, and even the Rabbis, who impart religious instruction to the Jews, are given allowances. Denominational schools are allowed to exist if they are not inferior to other schools in educational efficiency. In Germany, as we shall see, the Roman Catholics have their own primary schools maintained entirely by the State. The population of the Jews is very small in Germany but in places where their number is large,

they have their separate primary schools²¹ There is a tendency in modern Germany to restrict religious instruction to the Bible and the history of the Church

The important problem in connection with religious instruction is Ought the State to sanction and subsidise the teaching of a religion which the communities forming a State do not profess? Is it the duty of the State to assist by grants from taxes a belief which some of the citizens consider untrue? Is it prudent and safe for the State to sanction an *imperium in imperio* in the sphere of national education? The vast majority of Europeans including Englishmen and Scots are inclined to believe that religious instruction and moral training are a necessary part of education Sir Michael Sadler in his book *Our Public Elementary Schools* says —

Those persons observe that in elementary education secular and religious influences intersect or rather intermingle. A child asks questions about God and heaven and prayer. You have to answer his question or refuse to answer it. You cannot gainsay the importance of the question. What shall the teacher say? What shall the child be encouraged to believe? To leave these things out of education would be to mutilate it. To ignore them is to suggest their unimportance. But to answer them implies a variety of schools because on these subjects men hold various opinions.

All countries that have enforced compulsory education have not ignored and cannot ignore the provision of religious instruction at the expense of the State but no school maintained by the State or receiving grants from public funds has a right to enforce compulsory religious instruction of a denominational character on all its pupils. The liberty to withdraw on the conscience clause exists in every case.

Three Grades in Education—Compulsory education is split up into three grades—(1) Infant Grade (5 to 8 years) (2) Elementary or Primary Grade (8 to 11 years) (3) Higher Primary Grade which is sometimes called Secondary Education (11 to 14 or 15

21 See Chap II Sec. 6

years) Instruction in these different grades is not imparted in three separate schools, but is at present combined in a variety of ways. There exists, however, a tendency, as already explained, that there should be a break at the age of eleven when all children should be transferred to a school of a different type for teaching children from eleven to fifteen years of age. At present the schools in small villages have only infants and primary classes, and children are sent to bigger villages for higher instruction. The schools in bigger villages provide instruction from the age of five to the age of fourteen, and have Kindergarten classes as well. In towns higher primary schools are separately organised and they are called Central Schools, which will be described in a separate section. The villages have no Central Schools, but education in the higher primary grades has a distinct agricultural bias, which, on account of its importance to Indian conditions, is described in detail in the next section.

In 1898 the percentage of boys enrolled in private schools was forty, and was reduced to thirty in 1909. The proportion now is slightly lower. These schools admit boys at seven and keep them until they enter public schools at the age of twelve. The curriculum is determined by the Entrance Examination of public schools and is largely classical. Some of these schools, particularly preparatory ones, are exceedingly efficient, but others are hopelessly inefficient. Any man who has sufficient money for a brass-plate engraved with his name may call his house an 'Academy for the sons of gentlemen,' and so beguile the ignorant and foolish parents, with whom the world is so well supplied. A sympathetic French critic points out that to open a public house or a music-hall one must be licensed, to open a school one need not even know how to read and write. It is quite sufficient if one can pretend to know.²²

It is the weakness of the English system that an appreciable number of children are permitted to attend unrecognised and inefficient private schools.

Primary education in Scotland has always been better organised. Its parish schools are attended by pupils drawn from every rank of society, and the pupils can join the Scottish Universities direct from the parish schools. There has been a genuine co-operation between the Church and the people. The clergy seem to have developed the interests of all rather than those of their own or of selected classes. This explains the close union of the Church and the Schools in Scotland that exists to this day.

SECTION 7

Rural Education

England is not now an agricultural country. Farming is not so lucrative now as it used to be. Cattle breeding and dairying pay better than farming. I fear a casual observer notices that the fields now given to pasturage were once under cultivation. We should therefore expect that even in schools situated in villages far away from industrial towns at least over two-thirds of the children will not think of following the agricultural profession. Agricultural education does not receive the same importance in English village schools as it does in the Continental schools. Denmark has taken the lead in this direction.²⁰ A distinct agricultural bias is however imparted to education in English village schools. The Board of Education has repeatedly insisted that the environment should be freely drawn upon to lend reality to teaching and to arouse interest in country life and pursuits. Practical suggestions relating to this subject are given in the *Handbook of Suggestions to Teachers* issued by the Country Council.²¹

School gardens are steadily growing in number at present there are 6 000 gardens in England and Wales. In most schools gardening is done on business lines and in some the company system is followed. Fruit

²⁰ See *Village Schools in Denmark* by Haggard.

²¹ Board of Education Pamphlet No 46 on Rural Education may be consulted for details.

gardening, dairying, and cattle-breeding are taught in some schools, and flower-culture is attempted in a majority of school gardens, which often influence the dwelling house gardens of the villagers. Itinerary teachers provide instruction in bee-keeping, and swarms of bees are often taken to the village schools and the bees hived by the boys. The teachers help all the philanthropic movements of the village, and those who know farming give practical help to the farmers.

I visited a village school in Kent, ten miles away from the Railway Station, which I should like to describe.

The Village School in Kent — This school provides instruction in all the three grades of primary education, and has also a Kindergarten class, but a large number of boys come at the age of eleven from the neighbouring primary schools. It keeps the boys and girls till the age of fourteen. The boys and girls in the three top classes are taught separately and seldom come in contact with each other. Neither the prescribed set of Froebel's twenty gifts nor Montessori's apparatus are used. The teachers have adopted the ideas of Froebel's and Montessori's systems, but invent their own gifts to suit the environments of the pupils. The difficulty of transition from Froebel's method to formal instruction is overcome by following a modified form of the Froebelian method, in the first two school classes. This method fits in admirably with the existing tendencies in instruction. In the Kent village school, as everywhere else, the Head Master prepares his own syllabus, keeping in view the general instructions issued by the Kent County Council and the Board of Education.

The lower classes have class teachers but the teachers of higher classes specialise in one particular subject, and each teacher is a class master of one section only, though he does not teach all the subjects. Every class room is provided with a barometer and a thermometer, and the students themselves prepare the temperature, rainfall, and weather charts. In Arithmetic, problems of everyday use are set, and those of obsolete nature, intended only for mental exercise, are

scrupulously avoided. The school has a good workshop for wood and metal work and provides facilities for girls to learn washing, cooking and needle work. The Mid-day meal is supplied to about half the children and girls of the senior class help in cooking and service. The school vacations are regulated according to agricultural requirements. The school is closed at the time the children are expected to help their parents in collecting fruit or reaping their harvest.

An important feature of the school is its gardening. It has $\frac{1}{2}$ acre (one Indian *bigha*) of land for gardening divided into five parts, two of which are given to boys eleven years of age. Practical gardening begins at the post primary stage. In the first year the garden is used by the teacher as a demonstration farm. The boys are taught the use of implements and other things relating to farming. The other two parts of the garden are given to the boys of the next higher class. They are divided into smaller plots, each of which is allocated to two students. The two partners make their own arrangements for farming and grow articles according to their own tastes. They get seeds and other things from the teachers who help them in their work. In the third year, which is the last year of compulsory instruction, farming is done on mercantile principles. They had only the remaining $\frac{1}{4}$ of an acre (or one fifth of a *bigha*) at their disposal from which they made a profit of £7 last year. The students purchase their own seeds and manure and sell the produce themselves in the market. They do not supply it to the school kitchen which is unwilling to pay the prices that the boys can fetch by sale in the open market. The boys of their own accord earmark the profit for charitable purposes and the major portion naturally goes to school games.

In a neighbouring school which I did not visit farming in the top class is compulsory. The capital is raised by shares which are sold to the school boys through student brokers. The articles regulating the company management are drawn up in legal phraseology. The managing directors are appointed, and profits are divided among the share holders. They follow the method of

company management in all its details, and I was told that they always give a reasonable dividend

SECTION 8

Central Schools

Central Schools are schools of a new type that have developed after the War. They take boys and girls at the age of eleven, on the result of a competitive examination, and impart free instruction. The number of these schools is not sufficient at present. They resemble the advanced primary schools of France. The instruction given by them has a practical bias like that of the *Fortbildung Schule* of Munich, from which the practical idea was first borrowed. The courses extend over a period of four years. Every pupil is expected to do manual work, which takes the form of wood-work and metal-work for boys, and domestic science for girls. In the school I visited, one complete day is devoted to manual work in a week, and the boys are expected to produce a finished article at the end of their work. The system of devoting two afternoons for wood-work, was given up in this school. In some of the town schools, industrial side is very much developed.

The courses of instruction in the first year are of a general nature, and at the end of the first year, the boys and girls are divided into three groups, commercial, general and technical, but the transfer of students from one group to another is permissible at every stage.

The "Handbook of Suggestions for Teachers"²⁵ issued by the Board of Education, emphasises the importance of bringing education and the realities of life into intimate touch with each other by establishing a connection between school-work and the natural propensities of the children. In the curriculum, even the number of subjects is left to the teachers. "It is not possible," as the Handbook says, "to lay down any rule as to the exact number of the subjects which should be taken in an individual school."

In the commercial group, short hand, book keeping, typewriting with official routine and French are taught along with the usual school subjects—English, Mathematics, History, Geography, Music and Physical exercises. In the technical group applied Physics, technical Drawing and practical Mathematics are taught along with other subjects. Students are expected to spend a considerable portion of their time in the workshop. It is explicitly put down that hand work should not be interpreted exclusively to mean wood work of academic type having no value in the market, but it should mean industrial work of every description of an advanced nature. Pupils should be competent to go to shops as skilled apprentices.

History and geography and other general subjects are taught in the industrial group, but are treated differently. These schools can be criticised as having no provision whereby capable and ambitious pupils can pass on automatically to higher schools. It is simply a higher top of elementary schooling. Its end is a blind alley.²⁸

The Central Schools are all day schools, but the schools I happened to visit in Cambridge try the public school methods for the training of character, and infuse the spirit of corporate life into the pupils by dividing the institutions into four houses named after the four famous localities of Cambridge. A senior teacher is in charge of each house and every teacher is attached to one house or another. Every boy, at the time of his admission, is attached to a house. The House Master holds weekly meetings of the teachers and the students attached to his house and arranges the programme of matches, social gatherings, and excursions. Short lectures are often delivered. The Monitors called Prefects, are neither appointed by the Head Master, nor elected by the students. They are co-opted by the Monitors themselves from amongst students of the two top classes, the Head Master having the power of vetoing the election. The Head Prefect is selected by the Head Master from

among the Prefects. The inter-house matches are arranged by the Prefects in consultation with the House Masters, the winners getting the trophy.

No fee is charged for tuition, games, or medical attendance. The games form part of physical education and are free in the same manner as the laboratory practice in science subjects. Poorer boys get the midday meal free of charge.

SECTION 9

Secondary Education

Secondary education cannot be clearly defined because Central Schools educating children between 11 and 15 within the compulsory age limit are included in Secondary education. For purposes of this section, a Secondary School may be defined as the school the final examination of which entitles a student to join a University. Residential Schools, known as Public Schools, were established during the Middle Ages. They were private schools maintained by endowments. Their number was small and they could not meet the requirements of the people. They were supplemented by Grammar Schools established by the Boards, which were day-schools established in big towns. They followed the syllabus of Public Schools and prepared candidates for the University Entrance, and Scholarship Examinations. Classical languages were compulsory in those schools but there was no adequate provision for the education of girls. They corresponded to the Gymnasium in Germany.

Secondary education in England is both the strongest and the weakest point of English Educational System. It is the strongest point in that it evolved a system of public schools which many countries have tried to imitate, though without success. The Public Schools give a training which is essential for statecraft. The success of England in the great War was not due so much to her superior military skill as to her superior statecraft. It is the weakest point, because it lacks purpose and continuity. The establishment of the Board of Education

in 1899 and the Local Education Authorities in 1902 led to a survey of the field of Secondary education. Local Education Authorities were required by the Act of 1902 to consider and promote the general co-ordination of all forms of education. Public Schools which received no grant from the State remained outside the control of the Local Education Authorities. These authorities found that the provision for the education of girls was inadequate. Out of 575 schools on the grant list in 1904 only 99 were girls' schools. The Local Education Authorities have introduced two changes which have been gradually accepted by the aided schools: first that the Governing bodies of the schools should be the representatives of popularly elected bodies and that free places should be provided in a large measure. The percentage of free places is steadily increasing. It was over 86 per cent in 1926.

Immediately after the conclusion of the War, there was a real and unprecedented demand for education. Time showed that this demand was not transitory but permanent and progressive. Schools were overcrowded and classes grew far beyond their proper size. The public schools while raising their fees had to refuse admission to those for whom they could not find a place. The demand for increased accommodation at a moderate expense in the Secondary Schools is found in every country. France established a new type of schools for the working classes under the name of *Colleges* and Germany organised similar schools under the name of *Aufbau Schule*. The Local Education Authorities have established a large number of Secondary Schools which are known as colleges but they are not sufficient to meet even the present demand.

Statistics—In the year 1909 there were 950 Secondary Schools, having an average attendance of 166 per school and the number of scholars was only 4.4 per 1,000 of the population. All these schools sent 1,056 students to the Universities, of which one-third were girls. The number of schools has now increased by 50 per cent and the number of scholars has almost doubled.

The average size of the school is rapidly increasing²⁷ and the proportion of students to the total population is 9.9 per 1,000. The number of students they send to the Universities has increased three times. These figures do not include the old Public Schools which are run by endowments nor a large number of small private schools.

The Secondary Schools prepare students for the University Matriculation Examination, and encourage them by special grants to keep them on in the 6th form and go in for specialised courses. Students who stay on for specialised study after finishing their regular courses, appear in the scholarship examination of various Universities while some of them take the Intermediate Examination of the London University.

Irregular Admission — The Secondary Schools have to face a special difficulty because children have to be admitted at all times of the year, irrespective of any consideration of age. Individual Schools, unless they are in an exceptionally strong position, cannot lay down the rule for parents as to age and time at which children should be brought for admission. The key of the solution proved to be scholarships and free places in schools. In the year 1910, 26 per cent of the children joined at the right time, in 1926, the number rose to 59 per cent. Most of the public schools admit boys at the age of thirteen and they sometimes hold an admission examination. On account of the limited number of places, admission in older Public Schools is keenly contested. A number of lower schools prepare candidates for admission to the Public Schools, some of which are regular boarding

²⁷ In the London area, Dulwich has the largest number 893, Eton has 1,500 pupils. Dr F. S. Boes in the annual report for 1926 writes 'It is impossible to prescribe an ideal maximum enrolment for a Secondary School. A very large school has a distinctive momentum and massive force and it has great reserves to draw upon for the organisation of its advanced work and its games. But the bigger the numbers the more difficult is it for Head Master to know personally the boys under the charge and the harder it is to provide adequate space for assembly, dinner and games. On the other hand, a small school is expensive to staff, as teachers are needed for all branches of the Curriculum, whether the pupils are many or few. The London County Council has adopted 150 as a standard figure for its own Secondary Schools.' The average attendance in France is 1,500 and in Germany 650.

schools and others only coaching institutions. Some of these lower schools were established under the patronage of the Public Schools themselves.

Public Schools—The English Public School is the fulcrum of the English School System. The power of the Public School is not due to its large numbers, or its record for intellectual attainment, but to its reputation for building character. From these Public Schools has come the main supply of men who have administered the affairs of England. Their record is an open book in whose pages may be read the account of British diplomatic relations and the services of embassies and consulates. The high honour that is known to exist among the English judiciary may be credited, in no small degree to the character training given in the Public Schools. These schools have long and uninterrupted traditions and the most important of them are more than four centuries old.²⁸ Winchester School was founded by William of Wykeham in the reign of Edward III to prepare students for New College, Oxford. Eton was established 60 years later by King Henry VI. These schools were originally intended for the poor and endowments were provided for the maintenance of poor scholars.

There are at present 60 Public Schools that are noted as being of the first rank. The number of boys in these schools is less than 25,000 which is a small number compared with six million school children in England and Wales. The main feature of the Public Schools in England is not class teaching which is perhaps inferior to that in the corresponding schools recently established by Local Education Authorities in England, and decidedly inferior to the class-teaching in the corresponding schools in France and Germany.²⁹ Its main feature is the training imparted in hostels which

²⁸ The dates of the foundation of the seven English Public Schools that rank as such by Charter are—Winchester 1384 Eton 1440 Shrewsbury 1561 Westminster 1560 Rugby 1567 Harrow 1571 Charterhouse 1619.

²⁹ The Head Master of a German High School who recently visited English Public Schools with a view to studying their system told me that Germany could not afford to spend so much time in games at the expense of important class-work.

are very different from those in Indian Schools and Colleges, where a student pays for his room, makes his own arrangements for meals and provides for his own recreation. On account of these and other causes the Indian students do not develop any love for their rooms, their house, and even for their schools. Indian Boarding Houses in fact are hotels rather than hostels.

House System —In Public Schools students are divided into houses under the charge of resident house masters. The houses are not of equal size, and accommodate from 50 to 100 boys. The resident master of each house makes his own arrangements for meals, games and recreations for the students residing in his house. The school has its own sporting and social clubs in which selected students from different houses take part. The general organisation of the schools is similar to the organisation of the Cambridge and Oxford Universities, with centralised teaching. Students pay a compounded fee to the House Master who credits the tuition fees and other sundry charges to the accounts of the school and keeps the rest to himself. He runs the house as his own private concern, and is responsible for its finances.

The fundamental principle of training in Public Schools is that the boys are left to do everything for themselves. The teachers while organising the students, keep themselves in the back-ground, and this makes the students feel that they are personally responsible for the good management, good name, and good tone of the house. There exists an invisible force, stronger than any formal rules and regulations, whose nature, like sea-sickness, cannot be understood by anyone who has not actually felt it. This invisible force, which goes by the name of 'tradition,' is the essence of Public School training. A student takes pleasure in breaking the rule and is inwardly satisfied if he has defied authority; but he never has the courage to break a tradition. The teachers, being themselves brought up in Public Schools, realise the force of traditions, and utilise them for developing the character of the students and maintaining the reputation of the school.

The Public Schools have lately been severely criticised. Their curriculum, their neglect of modern sciences, the manner of teaching religion, the domination of athletics and the exclusive distinction that grows out of it, are all common themes for public criticism.³⁰ But if the Public Schools are the butt of sharp criticism, it does not mean that they are losing their old popularity. All places are filled in every Public School, and there is a long waiting list.

Public School spirit is gradually filtering into Secondary Schools and producing very good results. It is combating very largely the sense of class division and inculcates *esprit de corps* and genuine respect for schools. If England allowed her Public Schools to lose their historic traditions and their distinctive features under the pretence of democratising them, she would lose the most glorious part of her educational system of which she can be justly proud.

SECTION 10

Universities

The distinguishing characteristic of the British Universities, as compared with those of the Continent, has from the earliest days been the provision of halls of residence, or colleges in which students live as members of one brotherhood. Soon after the establishment of the schools at Bologna and Paris similar seats of learning were introduced at Oxford and Cambridge in the latter half of the thirteenth century. It has not been found possible to maintain this residential character in Universities established in large cities during the last fifty years.

Besides the eight University Colleges there are at present sixteen Universities—four in Scotland, one in Wales and the remaining eleven in England. The number of students in the Universities and the University Colleges was about 18,000, before the War, and it has very much increased since its termination. At pre-

³⁰ See *The Loom of Youth* by Alec. Waugh and *The Story of an Education* by H. G. Wells.

sent, the Universities have 42,345 regular whole-time students, 14,787 part-time students, 15,446 reading for the diploma courses and 18,371 attending extra-mural classes. The total number of students of every type in the Universities of Great Britain is 90,958 of which less than half are degree students. This number does not include the students in Polytechnics reading for the University courses. The Cambridge University has the largest number, 5,433, and Oxford comes next with 4,417. Nearly all Universities have taken the maximum number of students which they can conveniently teach. On account of the great demand for admission, they have also fixed the maximum number of colonial and foreign students they are willing to admit every year. Out of 42,354 students 2,526 come from the Overseas Empire and 1,452 from foreign countries, the maximum number being in Cambridge. The number of Indian students in all the Universities of Great Britain and Ireland is 1,600.

Types of Universities —Oxford and Cambridge are Universities of a special type, unique in themselves. They are now the natural corollaries of the big Public Schools. The Scottish Universities adopted the Continental System from the outset. Other English Universities were of the affiliating type, on the models of which the three great Indian Universities³¹ were established in 1858. The affiliating Universities began to be unpopular about the end of the last century and their unpopularity reached its climax in their condemnation by the Haldane Committee on the London University. Several University Colleges were replaced by teaching Universities. But opinion is changing again. The University of Wales was established as an affiliating University in 1921. The number of colleges affiliated to the London University and situated outside London is increasing. Most of the Agricultural Colleges are situated outside the University towns and are attached to the Universities as affiliated or constituent colleges.

31 Calcutta, Bombay and Madras

Future of the Universities —The organization of the British Universities is such that they cannot like the Continental Universities, admit an indefinite number of students. In fact the upper limit has already been reached. On account of the expansion of Secondary education the demand for University education is rapidly increasing and will increase still further in future.

The industrial towns are rapidly growing in size and students have to waste an unduly large portion of their time in coming to the University lecture rooms. The Grants Committee has cited the case of a student who leaves his house at 5 in the morning and does not return till 8 in the evening. The increased demand for higher education and the distance of University lecture rooms from the outer limits of overgrown cities will compel every University except Cambridge and Oxford to establish some relationship with the colleges which are sure to spring up in their neighbourhood. These new colleges may in time expand into independent Universities.

Finance —The total expenditure of the Universities and University Colleges in the year 1926-27 was £4,872,759. It does not include the expenditure on Colleges in Cambridge and Oxford and Polytechnics affiliated to the Universities. It also excludes the expenditure on Agricultural Colleges. The total expenditure including these institutions would be about six million.

It is interesting to note that the expenditure on administration is 8.9 per cent, on salaries and maintenance of library and laboratories, 64.6 per cent, on pensions, examinations, scholarships and fellowships, 15.1 per cent, and on repairs, taxes and other miscellaneous expenses 11.4 per cent.

Income —There are four sources of income: (1) Government Grants, (2) Municipal Grants, (3) Endowments and Subscriptions, and (4) Tuition, Degree and Examination Fees. The Government contribution to the Universities is £1,827,001 which forms 36.9 per cent of the total income. The income from tuition fee is 22.5 per cent, and the contribution from the local authorities comes to 10.5 per cent of the total income. Broadly speaking,

more than half the expenditure is defrayed by rates and taxes, about one-fourth by fees and the remainder by endowments, subscriptions and other sources. In the Scottish Universities, particularly at Edinburgh, 20 per cent of the expenditure is covered by fees, 40 per cent by Government grants and 40 per cent by endowments.

Control —The Universities of the United Kingdom have been since their origin independent of State-control. In recent years, however, the Universities were compelled to go to the Government for additional grants, which necessarily resulted in Government interference which was exercised in an honourable manner. The way in which the Government forced the University of Wales to apply for a Royal Commission, the manner in which the Oxford, Cambridge and London Universities Commissions were appointed and their recommendations enforced by Executive Commissions are examples of Government interference.³²

The Universities are not under the Ministry of Education, they do not get their grants from the education budget, but directly from the treasury under the orders of the Chancellor of the Exchequer (i.e., the Finance Minister). The Universities think, and quite rightly, that the Education Minister will exercise greater interference through his education experts, who are paid for interference, than the Finance Minister who has no time to act except in extreme cases.

University Grants Committee —The Finance Department has established a special committee to advise the Chancellor of the Exchequer in the matter of grant. This committee, known as the University Grants Committee, is doing very useful work. It consists of seven members; they are all Educational experts, but none of them is at present on the staff of any University. The Grants Committee periodically inspects all the Universities and advises the Chancellor of the

³² The recommendations relate to (1) change in the constitution of governing bodies, (2) appointment and tenure of office of the Vice-Chancellor, (3) organisation of offices, (4) revision of trusts, (5) appointment of a catering and buying expert, and (6) uniform rules for sending down students.

Exchequer on the recurring and non recurring grants to be given to the Universities. This inspection is similar to the inspection of colleges under the Indian Universities Act of 1904.

The members of the Grants Committee have been carefully selected. They all have had the experience of University administration but they are not directly connected at present with any University. They deal with the problems in a manner useful to the Universities.

The Grants Committee recommends to the Government the names of the Universities most suitable for the establishment of highly specialised departments, the duplication of departments of studies, which are likely to attract very few students is thus avoided. The Grants Committee by its timely advice helps in setting everything in order.⁸³

Scope—Till recently the Training Colleges for Teachers, the Agricultural Colleges, and a number of Industrial and Technical Colleges were outside the scope of the Universities. The Committee appointed by the Board of Education recommended that all the Training Colleges should be associated with the Universities or the University Colleges. The Agricultural Colleges are now recognised as Constituent Colleges of the neighbouring Universities. Higher work in all Engineering and Industrial subjects is now included in the scope of the Universities, in fact higher instruction of every kind comes under the purview of the Universities.

Universities and Industries—The relation between the Universities and the industrial firms is not so intimate in England as in Germany. This aloofness has proved to be disadvantageous to both. The industrial firms, partly on account of their over-anxiety to keep their trade secrets to themselves but chiefly owing to their belief that the Universities deal merely with theoretical knowledge and cannot help in solving the practical problems of industry, kept themselves aloof from Universities and Colleges. They are now beginning to realise

83. No such provision is made in the Indian Universities. The Committee of Enquiry appointed by the Viceroy is more a punitive than an advisory committee.

the position Industrial magnates are now willing to act on the governing bodies of technical institutions and colleges, give their advice in their teaching and examinations, and offer facilities to students for practical work

Administration of the Universities —The Universities may roughly be divided into two classes (1) The Older Universities of Oxford and Cambridge and (2) Modern Universities established at industrial centres The older Universities are maintained by endowments and fees and do not depend entirely on Government grant and public subscriptions Any proposed changes in their constitution are referred to a large assembly consisting of all the Registered M A Members of the University The constitution of modern Universities established in industrial towns, which still depend on public subscriptions, is very similar to the constitution of modern Indian Universities The Academic Administration is in the hands of teachers and the financial control is in the hands of non-teachers The Vice-Chancellor, who is the Academic Head, is the Chairman of the Academic Council and acts as Adviser to the Executive Council The Chairman of the Executive Council, which controls the purse, is an honorary officer elected on the strength of his position and business ability He does not come into touch with the students and the staff The Executive Council, guided by its Chairman, carefully selects the Vice-Chancellor and gives him a free hand in running the institution

In the Scottish Universities there exists a special officer called the Rector, who is elected by the students and has more power than any other officer of the University He is supposed to look after the interests of the students He takes precedence over the Chancellor and can veto any action of the University If present, he presides over all meetings of the University The students have also other means of representing their case before the authorities They elect their representatives, collectively called S R C,³⁴ in a public meeting convened by the President of the Students' Union, who

34 Students' Representative Council

approach the authorities and discuss the students' point of view in all important matters affecting the welfare of the student community.

Courses of Instruction—Instruction in Arts, Science, Law, Medicine, Agriculture and Teachers' Training is provided in all the Universities both for the Pass and the Honours degrees and provision is made for research work in selected subjects. The details are given in the Handbook for Indian Students published by the office of the High Commissioner for India.³³ In order to attract foreign students who usually went to Germany for Ph.D. degree, some of the Universities at the suggestion of the Foreign Office introduced the Ph.D. degree (which is awarded for research work), after the War Ph.D. students are often exempted from lectures and written examinations. The rules for the award of the D.Sc. and D.Litt. degrees are very stringent but in the case of the Ph.D. degree even the conditions of general training in the subject which should be the foundation of research work are in some Universities altogether dispensed with. Some of the Universities award degrees in industrial subjects such as tanning, dyeing and weaving, and the tendency to introduce degree courses in other industrial subjects will increase with the spread of technical education in the Secondary Schools.

Admissions to Universities—The question of admission and admission-examinations in the various Universities is very complicated and attempts are being made to simplify the system. In Germany the school authorities, under the supervision of the Inspector of Schools, conduct a school leaving examination which will be described in Chapter II. This examination is recognised as a qualifying examination for admission to any University. More than half a century ago, Cambridge and Oxford organised their Local Examination with the sole purpose of helping the schools at a time when no other guidance was available. Next came the examinations of the London University, designed not from the point of view of schools but from that of their degree courses.

³³ New Edition (1928) published by H. M. Stationery Office London.

Cambridge and Oxford also carried on their own examinations, respectively called Previous (Little-go) and Responsions (Smalls). These examinations were originally intended for those who desired to join those Universities, but were also recognised by other Universities as qualifying tests for admission. At the same time autonomous professional bodies came into existence, and assumed the right not only of laying down conditions for the various technical examinations, but also of framing rules for general school education. Chaos was inevitable.³⁶ The growth of new Universities complicated matters further. Academic bodies naturally have their views (often very divergent) as to what boys ought to do before they come to them. Competitive examinations for the Civil Service and the Army, and examinations for Commercial and other certificates added to their burden and further complicated the situation.

For purposes of admission to the Universities there are eight Examining bodies³⁷ in the United Kingdom whose examinations are recognised, with certain restrictions, by all Universities. Everyone is conscious of the complexity of this problem, which can be solved in two ways —

(1) The territorial jurisdiction for purposes of the Matriculation Examination may be defined on the lines recommended by a special committee appointed by the Board of Education on the Teachers' Training Colleges. They recommended that all Training Colleges situated in a given area may be attached to a University or a University College situated in that area. The boundary lines of the area need not necessarily coincide with those of the Counties and Boroughs. Universities may be selected to conduct examinations in Secondary schools situated in a given area. This system is followed in

³⁶ *Recent Development of Secondary Schools, 1928, Pamphlet No. 50,* p. 23.

³⁷ They are (1) Cambridge School Certificate Examination and Previous Examination, (2) Oxford School Certificate Examination and Responsions, (3) London Matriculation Examination, (4) Joint Examination, Board of the Universities of Manchester, Liverpool, Sheffield, Leeds and Birmingham, (5) Scottish Universities Entrance Board (Edinburgh, Glasgow, Aberdeen and St. Andrews), (6) Matriculation Examination of Durham University, (7) Matriculation Examination of the University of Wales, and (8) Bristol University.

France where the boundary lines of the Universities and the territorial administration coincide. The old Public Schools which cater specially for Oxford and Cambridge may be left out of this territorial jurisdiction.

(2) The second alternative is to leave the conducting of this examination not to the Universities but to a special committee appointed by the Board of Education. This will, however, standardise Secondary education and make it conform to a definite pattern thus crushing that individuality of educational institutions of which England is rightly proud.

An examination by the Local Education authority or by a group of authorities under the supervision of Directors of Education will be preferable to a Central examination under the supervision of the Board of Education. French method may be adopted in conducting these examinations.

The conditions of admission to the Scottish Universities have always been very simple. They have for centuries been open to all who chose to enter them, with the result that University education there has always been much cheaper than in England. In the middle of the last century the ratio of University students to the total population was more than twice what it was in Germany, and nearly six times what it was in England.³⁷ The four Scottish Universities have set up a Joint Board for conducting the Matriculation Examination for all the Secondary Schools in Scotland. This examination is called the Preliminary Examination.

Condition of Admission for Indian Students—No University in the United Kingdom recognises the Matriculation Examination of an Indian University. Most of the Universities exempt students who have passed the Intermediate Examination of an Indian University from their Admission Examination but Cambridge, Oxford, London, and the Scottish Universities do not give any exemption unless the student has passed the Intermediate Examination in the first division or the B.A. Examination at least in the second

³⁷ Strong's *History of Secondary Education in Scotland* p. 10

division. Most of the Universities give partial exemption to candidates who have passed a public examination in India. The rules of admission change from year to year and personal enquiries are always necessary. The London University has recently adopted a statute (No 116), by which they hold a summary examination in lieu of the Matriculation for candidates who are more than nineteen years old. Some of the Universities give special concessions to students above twenty-three.³⁸ The Scottish Universities, till recently, admitted the Matriculates of the Indian Universities, but they now admit only those who have passed the Intermediate Examination of an Indian University in the first division.

There exists at present an anomaly in the mutual recognition of the examination held by the British and the Indian Universities. The British Universities consider the Intermediate Examination of an Indian University in the first division as equivalent to their Matriculation Examination. The question of division is in itself an anomalous one, as there is no uniform standard for determining divisions. Some of the Indian Universities award a first division on a candidate's securing 50 per cent marks, others put the first class minimum at 60 per cent. The standard of marking also varies, as is evident from the percentage of the first division students in relation to the total number of successful candidates in the Intermediate Examinations.³⁹ —

Universities	Candidates	Total No of Passes	First Division	Percentage of First Division to Total Candidates
Calcutta	6,467	2,888	904	14
Madras	5,424	1,435	108	2
Bombay	1,124	733	15	1 4
Punjab	1,045	566	56	5 4
Allahabad	2,256	944	24	1

On the other hand, the Matriculation Examination conducted by any of the eight British authorities in the

³⁸ Detailed information may be obtained from the *Handbook for Indian Students*.

³⁹ *Report of the Calcutta University Commission*, Vol II, pp 200, 201, figures for 1917.

United Kingdom is recognised by the Indian Universities as equivalent not to their Intermediate but to their Matriculation Examination. I know several students who went to England after passing the Matriculation Examinations of Indian Universities. They studied privately for a year to pass the Matriculation Examinations of British Universities and subsequently spent two years in University Colleges when on account of ill health or other difficulties they were compelled to return to India where they had to begin their studies from the bottom of the University classes.⁴⁰

This lack of co-ordination among the British and the Indian Universities has the effect as it were of placing a protection duty on University education which is against the spirit of the age. I earnestly hope that the Congress of the Universities of the British Empire will consider the matter and authoritatively fix the equivalence of examinations conducted by the Universities of the Empire.

From my personal knowledge based on my experiences as a student in the Universities of various countries⁴¹ and my study of the system of their examinations, I can say that the *Baccalaureat* of a French Lycee is slightly higher than the University admission examinations of other countries in literary and scientific subjects. The *Abiturienten* of Germany comes next. The *Maturita* Examination of Italy, the Matriculation Previous and Preliminary Examinations of the British Universities and the Intermediate Examinations of Indian Universities are approximately equivalent in their standard of attainment. A student who has passed the Interme-

40. Three years ago the Aligarh University recommended to the Government of India that a student who had studied for two years in the King's College Cambridge for B.A. Honours Degree in Economics after passing the Previous Examination of the Cambridge University may be deemed to have passed the Admission Examination of the Aligarh University and be admitted to the University for the degree course but under existing regulations the Government of India could not accept it without recommendation.

41. I studied in the Allahabad and Calcutta Universities in India; Trinity College Cambridge in England; Göttingen and Berlin Universities in Germany; Sorbonne in France; Bologna University in Italy and Edinburg University in Scotland and I obtained my degrees through examinations and research from Allahabad Calcutta Cambridge and Göttingen Universities.

diolate Examination of an Indian University possesses sufficient qualifications to be able to study intelligently in any foreign University. He cannot, of course, be compared with a scholar at a college in Oxford and Cambridge whose ability and attainments at the time of admission to the University are decidedly higher than that of an Honours Graduate of an Indian University and are equivalent to that of a French student who has obtained two certificates after studying for two years in a French University.

Student Life — Cambridge and Oxford are the only two residential Universities in England. Durham Colleges are also residential institutions. Some of the Universities have hostels where a number of students can reside, but the mere provision of hostels does not constitute the residential system in its real sense. Students in non-residential Universities find accommodation for themselves. The English Universities, unlike those of Germany, have no special officer or department to keep a record of the lodgings, furniture, and pensions.⁴² The absence of such an officer or department causes great inconvenience, especially to foreign students.

Every University has a Students' Union with its own reading-room, library, debating hall and room for refreshment and games. They are the centre of the students' intellectual life, and there the future speakers of the country are trained. In the Leyden University, the Students' Union is the central organisation, and all other clubs and societies, intellectual, social or athletic, are branches of the Central Union.⁴³

Every University has sporting clubs which are organised and financed by the students themselves. In some Universities the clubs for each game are independent, while in others they are all under a central

⁴² Pensions are family hotels.

⁴³ In this Society, the speaker addresses the audience while standing on the table. In Germany the President remains standing when any speaker is speaking or any business is conducted. When the business is over, he says "Silentium er" and sits down—which really means "Be easy and drink beer."

committee called the Amalgamation or Games Committee

There is a large number of intellectual and social societies some of which are permanent while others die out when the students who started them, leave the University. The number of these societies before the War was so great that every second student was the officer or ex-officer of some one society or other. Unlike the Continent all social functions are conducted in the students' rooms. On the Continent the students never meet one another in their rooms; they do so in restaurants or club-houses where they sit for a long time, play games and sing songs. In Cambridge and Oxford every student generally entertains his friends in his own room in preference to entertaining them in a restaurant, so much so that they can have a smoke and refreshments there even if he is absent from the room. In Cambridge and Oxford all gates are locked at 10 and 9 respectively for going out, and at 12 for coming in and hence the social vigil, which is so common in the Continental Universities does not exist in Cambridge and Oxford. The restaurants in University Centres do not remain open all night as is the custom in Germany. English students are fond of games and they meet one another socially on playing fields as well.

Students do not enjoy the same freedom in England as in the Continental Universities. The restrictions imposed upon them are considered to have an educative value and are not therefore resented. Students who have taken their degrees have no place in the British Universities unless they are appointed teachers or elected to fellowships. The British Universities take great care of their junior students but entirely ignore the claims of the seniors and make no provision for their study and research after they have taken their degrees. The German Universities on the contrary, have no tutors to guide the junior students, who depend entirely on the advice of their student friends and their own intuitive knowledge. But great facilities for research work are offered both before and after the students have taken the doctor's degree. A Swedish professor told me before

the War that English freedom combined with German organisation is an ideal civil life. In the same manner I believe that three years spent in a British University followed by two years in a German University afford an ideal University education.

If I were asked to establish an ideal University I would follow the Oxford system of residence and tutorial guidance, and adopt the French system of conducting *Lincence* examination, for the B A students. For all degrees higher than that of B A, I would establish the German system of teaching and examination. As regards the administration of the University, I would follow the German system of having only two officers and two authorities, if the University is financed by the State, if it depends upon public subscriptions, I would follow the American system or the constitution of modern English Universities and have a Court, an Executive Council, and Academic Council with the Vice-Chancellor, and the President of the Executive Council and Court.

SECTION 11

Technical Education

Technical education, like other forms of education, grew with the needs of the people. Till recently the examination syllabus was the only guide for the teachers and instruction was naturally dominated by the idea of the examination. The schools were mostly private schools and received grants from public funds known as "Whisky Money,"⁴¹ first on the result of examinations and subsequently on the average attendance of pupils. Technical education has now been transferred to Local Education Authorities, and its expenses are met by 'rates' and 'taxes'.

Higher technical education is now included in the University education which makes provision for the award of B Sc degrees in Engineering, Commerce, Technology and Agriculture. Agricultural Colleges are maintained by the Board of Agriculture, but institutes

⁴¹ It was raised in 1859 by putting a penny duty on whisky and was subsequently amalgamated with the general education fund.

for the teaching of other subjects are maintained by the Universities which receive grants direct from the Treasury. The present tendency in England is to include technical subjects in the scope of general education and to obliterate the distinction between primary, secondary and technical education. In Germany technical education is systematised and forms part of compulsory education. It begins after the age of fourteen simultaneously with apprenticeship training. The system is described in detail in Chapter II Section 15.

The existing types of technical schools in England may be classified under the following heads —

- (1) Evening Technical Schools
- (2) Part-time day Technical Schools
- (3) Whole-time Technical Schools
- (4) Colleges for advanced study in Technology

The whole-time technical schools are sometimes called Trade Schools, but they provide for the evening part-time students as well. Polytechnics which will be described in the next section are peculiar institutions which impart technical education of every description. They are quite distinct from the *Hochschule* of Germany which admit only students preparing for a University degree.

Both in the part-time and in the whole-time technical schools there are four distinct courses designed to meet the requirements of the pupils —

(i) *Preparatory*—intended for pupils who have received an imperfect compulsory education. The major portion of the time is spent in the repetition of Elementary school work.

(ii) *Junior or Elementary*—designed for the children who pass out of the Elementary schools at the age of fourteen. This course extends over a period of two years and instruction in it is not compulsory as in Germany.

(iii) *Senior or Secondary*—meant for students who have finished the junior course, or who have left a Secondary school after passing the First School Examination, at the age of sixteen.

(iv) *Advanced or Collegiate*—suited to the needs of older students and planned to reach the standard of University work.

The number of whole-time students is comparatively small; the majority of the students work in factories and shops and attend lectures in the evening for self-improvement. The total number of pupils in all those schools is 7,38,000. This figure does not include students in the University Technical Colleges, nor 1,529 pupils in the Nautical Training Schools. The number of women is 3,26,766, slightly less than half the total number. About three-fourths of the students attend evening schools ⁴⁵

The students are allowed a variety of technical and professional subjects to suit their particular bent.

In the boys' department, the courses are arranged in Engineering, Building, Cabinet-making, Silver-smithy, Printing, Book-binding, Photo-engraving, Professional Cookery, Professional Laundering, Carriage and Motor-coach-building, Tailoring, Hair-dressing, Navigation and Seamanship, and the Manufacture of Boots and Shoes. The courses for girls include Dress-making, Ladies Tailoring, Millinery, Upholstery, Photography, Hand-dressing, and Domestic occupations.

It is outside the scope of the present work to give the detailed syllabuses of various types of technical schools. The syllabus of the Building-craft Schools, which runs as follows, will serve as a specimen —

Year 1

English	5 hours
Mathematics and Geometry	5 "
Science	4 "
Technical Drawing	2 "
Art	3 "
Drill	1 "
Building construction	3 "
Workshop (carpentry, plumbing and painting)	7 "

Year 2

All as before, except the last two items. These are—for carpenters, building construction 3 hours, workshop 7 hours, for others, workshop 10 hours.

⁴⁵ *Survey of Technical Education in England and Wales*, Board of Education Pamphlet No 49

There has been a distinct change in the attitude of business men towards technical education in the last decade. The Association of employers has begun taking interest in these schools. Industrialists and business men are now willing to become members of their managing bodies. They also help in drawing up their syllabuses and in conducting their examinations with the result that there is a distinct improvement in the standard of education through their expert advice.

A large number of firms in England now encourage the Sandwich scheme under which a young person works alternately full time at school and full time in the factory, allowing a day off each week for attendance at school. They think it is more advantageous to spend a fortnight or so entirely at school followed by a fortnight's work entirely in the factories than spending a few hours every day at school and a few in the factories.

Some persons lay great stress on the fact that every student in a technical school should be serving or should have previously served as an apprentice in a shop. Education in whole time technical schools which take boys fresh from primary or secondary schools is likely to become more academic than practical and the danger will be greater if the teachers have not themselves worked for some considerable time in factories and shops. Students are also encouraged to take active interest in the careers they have selected and are required to write and speak about the philanthropic aspect of their profession.

The characteristic features of the German, French, and British systems of technical education are summarised by Mr. Smail in his report on technical education in France and Germany. Germany aims at the building up of a great industrial nation, partly by the thorough training of the leaders as experts, partly by the training of middle grade workers, such as foremen, as thoroughly accurate and careful managers, and partly by the training of all grades of workmen and mechanics as skilled craftsmen and good citizens. France aims at industrial excellence partly by the training of highly skilled experts and partly by the training of those who should become the

best workmen and foremen Britain aims at individual excellence partly by offering many avenues and many chances for willing and persevering workers to climb all rungs of the industrial ladder

SECTION 12

Polytechnics

The Polytechnics were established to prepare the lower middle and the working classes for various industries and trades, which require skilled labour. They have developed considerably in due course and now make provision for training in every industry established in the locality. These institutions are peculiar to England and are different from the technical institutions on the Continent. Advanced research work in industrial and engineering subjects is carried on by the Universities. The Polytechnics prepare students for the University degrees in certain branches of engineering subjects, but they attempt to be more in touch with factories and industrial firms. They admit a large number of persons, already engaged in industrial pursuits, to their evening classes, and some of them prepare candidates for University diplomas or degrees. They admit students of any qualifications and prepare them for nearly all vocations. Teaching in specialised subjects, such as ship-building, is not provided in all Polytechnics, but is taught only in those situated near the ship-building towns. Students are not admitted to the University degree course unless they have passed the Matriculation or an equivalent examination, but students for the diploma courses may be admitted by the Director, if he is satisfied that they will be able to follow the lectures which they propose to select. The Polytechnics also provide teaching in ordinary arts and science subjects for the University degrees, and also have a School department. In fact, Kindergarten and advanced research are the only two stages of instruction excluded from the domain of Polytechnics. Some Polytechnics are situated at great distances from industrial centres. In London alone there are twelve Polytechnics

and twelve Technical Institutes. Technical Institutes are Polytechnics on smaller scale: they do not provide teaching in such a variety of subjects as Polytechnics do. Some of the Polytechnics are maintained directly by the County Councils, but most of them have their own governing bodies which collect funds for their running and capital expenditure.

The following is a detailed description of a Polytechnic visited by me.

Regent Street Polytechnic—This polytechnic is maintained by the London County Council at a cost of £120,000 per annum of which a third is contributed by the London County Council and a third by the Board of Education. Its administration is vested in a governing body consisting of seven representatives of the County Council and nine representatives of other interests. The Principal, called the Director, is appointed by the Governing body subject to the approval of the London County Council. The Heads of Departments are appointed by the Governing body on the recommendation of the Director and subject to veto by the County Council. Other teachers are appointed by the Director, subject to formal confirmation by the Governing body. In practice the Director makes his recommendations after consulting the County Council Inspectors, and hence the question of veto seldom arises. The Regent Street Polytechnic is a nine-storied building covering about three acres of land. The total number of students in this polytechnic is over 16,000 of whom 2,000 are day students and the remaining 14,000 evening students; one-third of the total number of students are girls. Lectures are delivered separately to morning and evening students.

Every branch of study is organised as a separate department. The Head of the department prepares the time-table and prospectus for his own department in consultation with the Director. He has complete control over the internal administration of his department, but every matter affecting other departments is reported to the Director. The Director visits each department once a week, and discusses with the Head all matters concern-

ing the department. The Director told me that he found it more useful and economical to visit the departments himself than to ask the heads of the departments to come to him.

No head of the department is allowed to purchase any article from the market. All the purchases are made by a special officer, acting under the instruction of the Director, and each department sends a list of its requirements to him within the budget allotment. The cheques are signed by the Chief Accountant and the Assistant Director appointed by the Governing body. The Assistant Director is more a manager than a teacher.

The Regent Street Polytechnic has a school department leading to the Matriculation examination of the London University, the prospectus of which begins with these words —

“ It has been customary to speak of the educational ‘ ladder ’ by which boys and girls of ability, however humble their circumstances, might proceed to those forms of higher education which were once the prerogative of the rich. But the ‘ ladder ’ has now become a broad path along which any one may travel who possesses the necessary brains and powers of application. Such a path is provided by the secondary school of the Polytechnic ”

This school has a preparatory section, but the majority of the boys enter the school at the age of eleven. There are 700 students in the school, divided into 28 sections. The maximum number of pupils in each section is fixed at 35 by the Government Code. There are 52 teachers, 27 of whom work exclusively in the school and the remaining 25 teach in other departments also. The boys sit for the London Matriculation Examination when they are in the fifth form. There is no age-limit for appearing in the London Matriculation Examination, but for admission to the University or any associated University College, the age-limit of sixteen has been fixed. Students, who are above sixteen at the time of passing the Matriculation Examination, leave the school and join a constituent College of the London University and pass their Intermediate Examination after one year. Students, who are under

sixteen stay on in the Polytechnic and prepare for the Intermediate Examination of the London University. The school department of the Polytechnic is really an Intermediate College for younger boys who on account of the age limit cannot join a constituent college of the University. The school has a strong bias for technical and commercial studies.

In the preparatory classes the boys follow the prescribed syllabus of the London County Council but at the age of eleven they are grouped like the Central schools boys in one of the three sections—technical, commercial and general. All these sections lead to the Matriculation Examination but the subjects taken by the students substantially differ in each section. In the lower school all boys go through a practical course in wood work while on the technical side this is followed by a course in metal work in the engineering workshops. Music and Art are compulsory. Special care is taken to promote physical efficiency. The Polytechnic has a doctor as well as a Director of Physical Education. The institution also possesses a large Gymnasium and a Swimming Bath.

The School of Art is another distinguishing branch of study. It provides teaching in copying from life and models, figure composition, landscape painting, animal drawing and designing. It also provides instruction in the history of Art.

There exists in the Polytechnic a regular department known as the Matriculation Department with a separate head, for preparing students for the London Matriculation Examination. Students may be admitted both to day and evening classes. The time table is sufficiently elastic to allow a student sufficient coaching in subjects in which he is especially weak. These casual students are sent up for the Matriculation Examination as regular students. Besides the High School and Matriculation departments which I have just described there are separate departments for instruction in a large number of technical, professional, and commercial subjects. These departments admit both whole time and part time students, some of whom read for the University degrees.

and diplomas. It is necessary for the degree students to have passed the Matriculation Examination before joining the department. The Polytechnic also admits students who read for the examination known as 'Associate Membership of the Institute of Electrical and Mechanical Engineers'. These examinations are conducted by the teachers assisted by an external examiner appointed by the Institute. In case of a difference of opinion between the internal and external examiners, the matter is referred to the Institute whose decision is final. There exists a similar guild for Chemical, Engineering and Commercial subjects. In such branches of study, where a Public Examining Board does not exist, the final examination is conducted by the teachers under the general direction of the industrial magnates.

It is outside the scope of the present work to give a detailed description of each department. A list of the departments, each of which is organised separately, would suffice for information —

A	Departments preparing for the Matriculation Examination	1	Secondary School for boys
		2	Matriculation Department (including preparation for the Army & Navy Competitive Examinations)
B	Departments preparing for the B A Degree	3	Department of Modern Languages (French, German, Italian, Dutch, Russian, Spanish & English for foreign students)
		4	Economics
C	Departments preparing for the B Sc Degree	5	Mathematics
		6	Physics
D	Departments preparing for the B Sc Degree in Engineering or Diploma in Engineering	7	Chemistry
		8	School of Architecture
		9	Electrical Engineering
		10	Mechanical Engineering
		11	Building & Surveying
		12	Automobile Engineering
		13	Civil Engineering
		14	Wireless Engineering
E	Departments preparing for the B Sc Degree in Commerce or Diploma in Commerce	15	School of Commerce and Law, Banker's Course, Securities' Course, Salesmanship & Advertising, Grocers' Course, Accountants' Course
F	Departments for other Technical subjects preparing for the Diploma Courses	16	School of Art
		17	School of Photography
		18	Telegraphy and Telephony
		19	Music
		20	Physical Education
		21	First Aid
		22	Electrical Technology
		23	Cabinet Making
		24	Carpentry and Joinery

- (c) Departments for Industrial and General subjects preparation for the Diploma Courses
- | | |
|----|--|
| 1 | Chemical Engineering including carbonisation of coal |
| 46 | Illuminating Engineering |
| 2 | Automatic Telephony |
| 22 | School of Carriage building |
| 24 | Domestic Economy |
| 30 | Hair dressing (Barbers) |
| 31 | Industrial administration and business management |
| 32 | Speech training and dramatic art |
| 33 | Tailoring |
| 34 | Dress making and general needle work |
| 45 | Journalism |
| 36 | Plumber's work |
| 5 | Manufacture of colours and varnishes |

Every Polytechnic provides teaching in those industrial subjects in which the people of the locality are interested. They are filling a large want especially in female education in recent years by giving training of a practical nature as opposed to the ordinary theoretical teaching. Girls from families in very comfortable economic condition attend classes at these Polytechnics for instruction in Domestic Science comprising cookery, dress making, laundry, millinery and courses in domestic electricity and plumbing. There are also classes where girls less economically independent can learn to take up various branches of Domestic Sciences professionally. The activities of the Polytechnics are not confined to preparation for examinations and industrial pursuits they also provide a large number of literary, physical and recreative societies which help in forming the character of individuals. The most important of these societies is the Parliament where the students learn the art of speaking, and the business of which is conducted on the lines of the British Parliament. Among other prominent societies the Rambling Society which arranges walking excursions, the Lantern Society which gives entertainments once called Penny Readings, Picture Concerts and the Photographic Society may be mentioned. The Distress and Christmas Dinner Fund is doing useful philanthropic work. It has been started recently and has so far collected and distributed about £27 000. On the athletic side the Polytechnic has the Cricket, Football, Hockey, Tennis, Rowing, Water polo and Swimming.

Cycling, Hobbies (for running), Gymnasium, and Rifle clubs, and on the social side, it has the Saturday evening concerts, Photographic Society, Chess, Circulating Library, Friendly Society (for social service) and Literary Clubs. It maintains a Restaurant of its own. In spite of the disadvantage of being situated in the heart of the biggest town of Europe, the Polytechnic is successful in providing recreations and pastimes which help in the formation of corporate life.

SECTION 13

*Training of Teachers*⁴⁶

The Training Institutions of England are divided into two types. (1) Departments for the training of Teachers provided in the Universities and the University Colleges, (2) Special Training Colleges known as Two Years Colleges. The total number of students in all the Training institutions is 17,152 of which about half belong to the Universities. The total number of Training Colleges in England and Wales is 109.

The courses of instruction consist of two parts, Academic and Pedagogic. The course of instruction in the University Training Departments extends over four years. During the first three years, the students read for the B. A. or B. Sc. degree courses and in the fourth year they do the Theory and Practice of Teaching. In the Two Years Training Colleges, one year is devoted to school courses and the other to the Theory and Practice of Teaching.

The head of the Training Department in the University generally enjoys the title of Professor of Education and his assistants have the status of University Readers and Lecturers. Both Professors and Lecturers are, as a rule, persons who have had teaching experience in Elementary or Secondary schools. In the Two Years Colleges, a sharp distinction was formerly made

⁴⁶ For fuller information the reader is referred to the article by Professor Nunn in the *Educational Year Book*, 1927, published by Macmillan, New York, International Institute of Teachers College, Columbia.

between the Subject staff, that taught the academic courses, and the Method staff which taught the Theory and Practice of Teaching, but this distinction has now been removed.

The Board has now ceased to prescribe as it formerly did special qualifications for admission to a Training College. All that is now necessary is that the student should have passed a First School Examination taken at the age of sixteen which is conducted by the Universities and other bodies to test the satisfactory completion of a general Secondary Education. The Universities are now getting a large number of students who have passed the Second School Examination taken at the age of eighteen which is really the Entrance Examination of the Universities.

Out of the total number of students admitted to Training Colleges in 1925 5 571 passed the First and 1 104 the Second Examination.

Finance—The Board of Education assists the training of teachers financially in two ways—by giving scholarships to students and by giving grants to Training Colleges. The amount of grant is £52 a year per student for day scholars, and £86 a year for every student in a Boarding School. One half of this amount is paid by the Board of Education and the other half by the Local Education authorities. The Government grant is given according to the grant in aid rules and the expenditure on Training Colleges is included in the approved educational expenditure. The Government grant is not less than 50 per cent of the total expenditure.

The Two Years Colleges not maintained by the Local Education authorities get £28 a year per student in the case of men and £26 per student in the case of women. The Board pays the college tuition fee of all the students who promise to study for the Degree Examination in Teaching after taking the B A degree. It is paid not only during the fourth year, when the students are actually under training but during the entire period of University education.

The final examination in Training Colleges has so far been conducted by the Board of Education, but it will, in future be taken in hand by the Universities.

On account of the increased facilities for training the number of trained teachers is steadily rising, and in Scotland almost all the teachers even in Elementary Schools are trained. The question whether the Training Colleges should be attached to the Universities or organised as independent institutions is a subject of great discussion in Germany, the details of which are given elsewhere. In England this question was referred to a committee which recommended that all the Training Colleges situated in a certain locality, may be attached to a University or a University College situated in that locality. The committee also recommended the establishment of a central committee, attached to the Board of Education, to discuss the general plans of teaching, examinations, and expenditure. The constitution of the committee would be as follows —

Representatives of the University and University Colleges	8
Representatives of the Local Education authorities	4
Representatives of the Governing Bodies of Non-University Training Colleges	4
Representatives of the Teaching Staff of the Training Colleges	4
Representatives of the Teaching Profession	4

All persons are to be nominated by the President of the Board of Education

SECTION 14

Salaries and Pensions

Before the War the teaching profession⁴⁷ was very poorly paid with the inevitable consequence that only those persons joined the teaching profession, who failed to obtain a decent living in other and more lucrative

47 In this term I exclude the members of the staff in the bigger Public Schools and Universities

departments. The profession did not command any respect in society on account of the low standard of living which teachers were compelled to adopt. They often had to undertake other work in order to supplement their income. The teachers of Elementary schools were trained either in the Secondary schools or in the schools known as Pupil teachers' schools which were lower grade training institutions outside the University control but empowered to award diplomas and certificates.

A complete change has occurred recently in the status of the entire teaching profession. The salaries of the teachers on the recommendation of Burnham Committee have been very much increased and their pension and bonus made more attractive. They are now on a par with the first grade clerks in the Civil Secretariat.

Every teacher is appointed to a post in a particular school and not in the service and his increment is graded. He gets his minimum salary for the first two years after which he gets his annual increment which varies from £12 to £15 a year for men and £9 to £12 for women. The maximum is reached after eighteen years and in some cases after twenty years service.

A teacher, as a rule is not transferred from one school to another but any two teachers may interchange their places with the permission of the authorities concerned.

The following table shows the annual salaries of teachers in 1911 just before the War and in 1925. The salaries of the Assistant Masters in some cases, did not exceed £50 a year before the War.

Grade.	Men or Women.	Average Salary		Minimum	Maximum
		in 1911	in 1925		
		£	£	£	£
Asst. Masters Pri- mary Schools	Men	75	300	108	408
	Women	60	310	150	324
Asst. Teachers Se- condary Schools	Men	174	390	370	480
	Women	120	310	201	384
Head Teachers Se- condary Schools	Men	450	703	600	1 000
	Women	324	503	500	900
Inspectors		1 000	1 500		
Professors		800	1 200		

Teachers do not retire till the age of sixty-five, but they often get extensions. Every teacher who has completed his service gets half the maximum salary of his grade as pension⁴⁸ and a bonus equivalent to fifteen months' salary in case of full forty years' service.

SECTION 15

Grants

The question of grants is an important one. Sir Graham Balfour⁴⁹ says, "Grants should be given on simple conditions which are clearly understood and which cannot be evaded. There ought to be no doubt about the amount earned and no delay from one financial year to another in payment." Grants are given according to a fixed rule, and in every case the minimum, and not the maximum, is fixed. The minimum is always 50 per cent of the total expenditure but in certain areas, where the rates or house-taxes are high, the grant is higher, and is given in the form of a special grant.

The Grant formula is 36s per head average attendance *plus* 60 per cent of teachers' salary *plus* 50 per cent special services and maintenance *plus* 20 per cent of other expenditure *minus* $7/240$ of the previous total *plus* the sum necessary to make it 50 per cent of the total expenditure if it happens to be less than 50 per cent.

In the calculation of grants both the number of pupils and the salaries of teachers are taken into consideration. The deduction of an odd fraction $7/240$ of the previous total is rather too ingenious and beyond the comprehension of non-Mathematical teachers. The system of grants should be based on three principles —

(1) It should be given readily and not left over for consideration in future years.

(2) It should not depend on the capriciousness of supplementing grant but on the poverty of the locality or the institution.

(3) Its calculation should be simple. In this case the calculation is very elaborate and every Local Education Authority has to appoint a grant expert who calculates the grants; the educational authority is entitled to receive from the Board of Education. No one can leave its calculation entirely to the Board whose calculations and mistakes are more often on the wrong side.

SECTION 16

Inspection

Every Local Education Authority has its own set of Inspectors different from the Inspectors employed by the Board of Education. Full inspection of every school is held once in about three years. The County and Board Inspectors co-operate together in the full inspection; they inspect and examine each subject taught in the school. The Inspectors hold conferences with the Head Masters and the teachers individually and in groups and discuss the manner in which teaching and organisation can be further improved. After the inspection they send a short confidential report which is mainly devoted to the immediate and future needs of the school. The manner of inspection has undergone very great change in recent years. The inspection of schools was always looked upon as a dreadful event and the Inspector was always received as an unfriendly critic. Schools were harassed and their work interrupted by hordes of Inspectors. Managers and teachers were embarrassed and put to unnecessary expense by the different demands of successive Inspectors and inspection was made according to an ideal of cast iron uniformity which tended to suppress initiative and discourage experiment.⁶⁰ Inspection now is very different from what it was before.

⁶⁰ See Sir Selby Bigg p. 147

The duties of the Inspectors are —

(1) to evolve in collaboration with teachers, the best methods of teaching particular subjects or tackling particular problems,

(2) to attend educational conferences held in their district,

(3) to organise short courses for teachers in the technique of teaching, and

(4) to help the Local Education Authorities in every manner

The Inspectors visit the schools as friends and guides and not as hostile critics. Their duties do not end with the pointing out of defects; they instruct the teachers as to how things may be set right. The Inspectors themselves give lessons in the presence of teachers and take teachers to schools where new experiments are being made or where model instruction is given in a particular subject. They hold periodical conferences of the teachers.

I enquired both in England and Germany whether successful efficient Inspectors were recruited direct or promoted from the rank of teachers, but I was unable to find any uniform rule relating thereto. Efficiency depends on the personal equation of individuals.

SECTION 17

English System of Examinations

The English System of education is dominated by the idea and practice of examinations. The boys and girls are admitted at the age of eleven in Central Schools and scholarships are awarded to them on the result of a competitive examination. An examination is held at the age of fifteen, which is called, in some cases, 'the First School Examination', and is conducted by different authorities.⁵¹ It does not entitle a student to join a Uni-

⁵¹ Among the principal organisations that conduct this examination are the various University bodies—The Royal Society of Arts, the London Chamber of Commerce, the College of Preceptors, the Union of Lancashire and Cheshire Institutes, and the East Midlands Educational Union.

versity, but is considered by the employers as a sufficient qualification for appointment to certain posts. It also entitles a candidate to join Secondary Technical Schools.

A Second Examination is held at the age of eighteen by eight different authorities⁵² which entitles the candidates under certain restrictions to join the Universities. The University Colleges often conduct their own admission examinations. There is no Central authority nor is there any uniformity of standard in these examinations. The Universities conduct a series of examinations for their Graduates and under Graduates. Every student is required to pass a Public Examination a year or two before his Degree Examination.⁵³ After taking his degree a student has two and in some cases three more rungs of the ladder to climb.⁵⁴ Cambridge and Oxford till recently had only one examination and other degrees were conferred without any further examinations. Degrees awarded without examinations are called honorary degrees.

The System of Examination described—Under the British System of Examination the examining authority appoints examiners for each paper. In every subject several papers are set and each paper has a different examiner. For instance in Mathematics the examiner in Geometry does not set the question papers on Arithmetic and Algebra. The students assemble at various centres of the examination at the appointed time. Printed papers in sealed envelopes are sent to the Superintendents of Examinations at the various centres. Students are required to answer six or seven questions in three hours. The answer books are sent to different examiners who award marks numerically. The maximum marks are fixed for each part of a question and the maximum marks allotted to the whole paper vary from 50 to 100. The marks are totalled by the examin-

52 See Sec. 10 p. 46

53. The Intermediate Examination is known by different names in different Universities and the syllabus of examination in each case is different.

54. The examinations in arts subjects are Intermediate B.A. (Pass) B.A. (Honours) M.A. D.Litt. Ph.D.

ing authority, which declares the candidates to be successful, if they succeed in securing the prescribed percentage of marks in each subject and in the total. The names of the examiners are kept confidential and students are forbidden to write their names on the answer-books. Special stress is laid on the fact that the examiners and the examinees should not know each other. The ability of a candidate is judged entirely by the number of marks he secures in the examination. All candidates are required to answer the same question at the same time at different centres. In the bigger examinations, assistant examiners are appointed to assist the Head examiners. The assistant examiners very often do not meet, and examine according to the written instructions issued by the Head examiners. The efficiency of a school is judged by the percentage of passes in the public examinations. Employers recognise the examinations as the sole standard of intelligence.⁵⁵ In other words, the examinations are a passport to various public and private services. Till recently grants were awarded mainly on examination-results.

The English Examination System has been very much criticised in recent years. Lord Haldane in his address at Swansea in 1922 said —

“ You are a very quick people although you have been terribly down-trodden by English Examiners. I hope you are going to get free from the dominating examination system. It is regard for quality, to the character, and to the success of the student in living adequately in the higher sense, that counts, and not the question of whether he can pass and get so many

⁵⁵ Experiments are being made in France, America, and elsewhere to test the efficiency of boys by methods known as *Intelligence Tests*. The *Intelligence Quotient* is said to remain constant in a child's career.

$$\text{Thus Intelligence Quotient} = \frac{\text{Mental Age}}{\text{Chronological Age}}$$

Assuming 100 to be unity, the Intelligence Quotient of a normal boy is between 90 and 110, 80 to 90 indicates dullness, 120 to 140 very superior intelligence and above 140 signifies genius. The *Intelligence Test* was first devised by Prof. Binet in France to pick out mentally defective children. Prof. Terman invented a systematic set of tests for calculating the mental age of children of different chronological ages. His tests were arranged according to the ages of children, and were six for each year. The starting point is the age when the pupils can do all the tests and two months are added for each test which a child successfully performs. See *Modern Development in Educational Practice*, by Sir John Adams, Chapter III).

marks in a written examination by examiners who know nothing of the inward matter."

The Commission on the Education of the Adolescent says —

The majority of our witnesses were opposed to the establishment of any special leaving examination for pupils in post-Primary schools chiefly on the ground that the institution of any public test would adversely affect the present free development of such schools by stereotyping the curriculum and teaching. They considered that such an examination would probably cramp the individuality of particular schools, narrow the educational outlook, and bring about a general loss of the freshness and elasticity which at present characterizes many of them."

Some persons definitely favour the system of public examinations. They believe that a well-devised external examination exercises a beneficial influence on the work of a school, as it sets up standards to aim at and provides an incentive for the pupils to remain at school up to the end of the course. They say that children enjoy working for a well arranged examination test which acts as a useful stimulus, provided of course that the examination syllabus does not unduly dominate the curriculum. They further think that boys and girls are handicapped both from economic and educational points of view, unless they can produce some tangible evidence of their attainments. For these reasons the Commission on the Education of the Adolescent recommended a public examination at the age of fifteen with an essential proviso that the examination should be voluntary. They did not recommend a general examination for the whole country, and were of opinion that the suggested Public examination could best be undertaken by joint boards in different districts, consisting of representatives appointed by Local Education Authorities for both Higher and Elementary education, by the Universities of those districts, and by the teaching profession in its various grades.

The correlation in various subjects is tested by the formula $R=1-\frac{M}{n^2-1}$ where $M=\frac{n^2-1}{6}$ and n is the number of pupils in the class and Σg is the sum of the gain of his position in the class in the two subjects whose correlation is to be found.

56 *The Unity and Work Democracy* 1 10

57 Chap. IX. Sec. 170 of the Report

It is a debatable subject at present in England whether a public examination should be instituted for the final stage of the new type of Central Schools and the senior classes of ordinary schools. The Director of the Manchester Education Committee has just outlined the detailed syllabus of a public examination for the schools of that locality. The advisability of such a step has been challenged by persons of equal authority and weight for reasons given in the preceding paragraphs. The solution of the problem lies in adopting the Continental System of examination which will be immune from these criticisms. The school examinations in Germany are really no examinations.⁵⁸ The French System,⁵⁹ or some modification of it, will best suit English conditions. The Directors of Education in bigger counties and boroughs may take the place of the Rectors of Academies. Smaller counties and boroughs may combine, like the departments in France, and appoint the Principal of a University College lying in their territorial jurisdiction to control the examinations. The Presidents of each Commission, as in Italy,⁶⁰ may be selected from the staff of the University or the University Colleges situated in their territory, or appointed from the panel of Inspectors of the Board and of Local Education Authorities.

The English System of examinations has been studied scientifically by Professor Edgeworth.⁶¹ The summary of his work is given by Sir Philip Hartog in his book on examinations.⁶² I have written two memoranda on the same subject—one jointly with Sir Philip Hartog.⁶³ The graphs of the marks allotted by sub-examiners in large examinations are appended to those memoranda.

In the English System of examinations there are certain unavoidable errors which are styled by Prof Edgeworth as—

(a) Errors due to “ minimum sensible ”

⁵⁸ See Chap. II, Sec. 19

⁵⁹ See Chap. III, Sec. 10

⁶⁰ See Chap. III, Sec. 11

⁶¹ *Journal of Royal Statistical Society* Vol. II, pp. 599-635

⁶² Published by Constable & Co.

⁶³ *Report of the Calcutta University Commission* presided over by Sir Michael Sadler, Vol. VI, pp. 127-131

- (b) Deviation errors
- (c) Errors due to difference of scale
- (d) Deviation due to speed
- (e) Errors due to the fatigue of the examiner

The errors due to these five causes have been mathematically calculated. Besides these there are other errors which are abnormal and have not so far been expressed in Arithmetical numbers—such as the temper of the examiner, the temper of the examinee at the time of answering the question paper, and the luck of the examinee in getting questions in which he is interested.

The aggregate error due to the five above mentioned causes including the error due to speed is 7.5 per cent and assuming that all papers have been leisurely looked into and there is no error due to speed the aggregate error due to other causes will be 4.1 per cent.⁶⁴

The effects of the above-mentioned errors may be favourable or unfavourable to the examinees. It is scientifically incorrect to say that all candidates who obtain 30 or even 31 per cent in any examination deserve success and all those who obtain 29 per cent deserve failure. The former may have been favourably and the latter unfavourably affected by the unavoidable examination errors.⁶⁵

The determination of the order of merit by the aggregate marks awarded by a group of examiners is not possible within certain limit of valuation. The limits can be calculated. They depend upon the number of questions, the number of papers and the total aggregate marks. The order of merit of the candidates whose marks lie within certain limits should be determined by considerations other than the examination results.⁶⁶

In large examinations which necessitate the employment of a large number of sub-examiners to examine the same paper it is difficult to maintain a uniform standard on account of differences in perception. Prof

⁶⁴ Details may be found in Sir Philip Hartog's book on examinations and in Vol. VI of the *Calcutta University Commission Report*.

⁶⁵ This disadvantage has been overcome in some places by the system of Grace Marks. In India the word Grace Mark is a misnomer. It is really a compensation for efficiency in other subjects.

⁶⁶ *Calcutta University Commission Report*, Vol. VI.

Edgeworth has found that the graph of the marks obtained in a good examination is the figure of a hat, and the idiosyncracies of individual sub-examiners can be detected by referring their graphs to the graph of the mean examiner. The perceptions of examiners are so divergent that the same answer may secure good second class marks from one examiner but less than the minimum number from his colleagues. An example of this is recorded by Dr Ballad⁶⁷. In an examination in History in the year 1920, the papers were evaluated by six professors of History working as a panel. The candidates were required to get 60 out of 100 marks for a pass, and it was agreed that any paper which secured less than 60 marks should be circulated among the examiners in order to ensure fairplay to all border-line cases. One of the professors, who was exceedingly conscientious, began by writing out what he considered model answers to the questions but inadvertently his model answer-paper got mixed up with the papers of those whom he had ploughed and was sent round to the other five professors for their appraisal. His paper was read by them as a *bona fide* answer-paper of an examinee, and some of his colleagues ploughed him the marks ranging all the way from 40 to 80⁶⁸.

In France and Italy every answer-paper is examined by two examiners. Examinations and in case of schools even external examinations, are no doubt necessary in every system of education. But I appeal to the authorities in England to change the system of their examinations. On one side, the mathematicians shall be saved from the trouble of building up a new branch of Mathematics, *i.e.*, the theory of examinations, and on the other hand, the system in vogue in the Colonies who have adopted the English system of examinations without the safeguards which England has recently introduced shall be improved. If Cambridge and Oxford, or any other educational authorities desire to assist the British Colonies by conducting their final examinations, let them

not demand the answer books to be sent over to England but appoint Examination Commissions in the Colonies themselves just as the French and the Italian Governments do. The Presidents of the Commissions may be sent out from England.

SECTION 18

Medical Inspection of School Children

The Medical inspection of School children is compulsory in England and it is practically the same all over the country involving an expenditure of about one and a half million pounds. The system in vogue in the borough of Cambridge is described in this section in detail. It is the same in other counties and boroughs.

In Cambridge town there are 42 Primary schools with 7 500 children. The Medical staff consists of a doctor, two compounders (called nurses), a dental surgeon and two clerks for correspondence. Medical inspection is held in the school premises and the result of the inspection is entered on a printed form which is kept in the Borough's Education Office.⁶² Children are examined after every three years and the results of inspection are noted down on the same card. Those suffering from special diseases are specially warned and are treated by the Medical Officer who has a dispensary of his own. Serious cases are referred by the Medical Officer to Medical Practitioners of the town. The first inspection of a child takes about two minutes. Children who are suspected to be suffering from some special diseases are taken to the hospitals and examined there. Children suffering from weak lungs or weak hearts are taken to special open air schools where they are properly looked after. Each child is compelled to sleep in the afternoon on a bed specially provided for him. In some cases the Medical Officer prescribes special forms of exercise.

⁶² Entries on the Inspection Card have to be made under the following heads:—Date of inspection; Cleanliness; Footgear; Height; Weight; Nutrition; Teeth; Tonsils; Adenoids; Mouth-breather; Olands; External eye-diseases; Vision; Ear-disease; Hearing; Heart; Lungs; Nervous system; Tuberculosis; Ricket; Deformities; Infectious diseases; Contagious diseases; Other diseases; Vaccination; Hair; Signature of Medical Officer.

Great care is taken in testing eye-sight and, if necessary, glasses are provided at cost price. The Medical Officer at Cambridge is a great believer in the administration of castor oil. During the cold weather, school-children who have a tendency to bronchitis are specially marked, and the teachers give them one to two teaspoonfuls of Cod-liver Oil malt every morning for six months. This reminds me of the administration of Quinine during the malarial season in India. The neglect of teeth, due partly to the habit of not cleaning them after meals and before going to bed, and partly to the diet, is very common in European countries. Special care is now taken to warn children of the dangers of neglected teeth. Dental surgery rooms, fitted with the most modern machinery and provided with the apparatus for generating and administering gas, are provided in the School dispensary. At the time of medical inspection the condition of the teeth is noted on a special chart, children suffering from tooth troubles are treated free and their improvement noted on the chart. The Medical Officer informs the parents of the special diseases from which their children are suffering.

In addition to the full inspection of children after every three years, the Medical Officer inspects each school once a year and examines the general health of the children. He picks out for close inspection those children who appear to him to be in doubtful health.

Several competent authorities told me that medical inspection has very much improved the general health of the pupils, and that a timely treatment has saved the lives of many.

SECTION 19

The Educational Policy of Labour

The Labour Party has published its programme of education in two pamphlets,⁷⁰ with a foreward by

⁷⁰ (a) *Secondary Education for All* A Policy for Labour, by H. H. Tarney. (b) *From Nursery School to University* A Labour Policy, published by Trades Union Congress.

Mr. Ramsay MacDonald. It claims that Secondary education should be free and open to all but not compulsory. It wants the compulsory age limit to be raised by one year from 14 to 15 as contemplated by the Fisher Act of 1918. The Labour Party has declared that the only policy which is at once educationally sound and suited to a democratic community is the one under which Primary and Secondary educations are organised as two stages in a single and continuous process. Secondary education being the education of the adolescent and Primary education a preparation for it. It hopes that Central Schools and Junior Technical schools will be transformed into one part of a system of free and universal Secondary education. It desires the sex of grant-aided Secondary schools either to be abolished as at Bradford or the number of free places in them to be increased from year to year and pending the complete abolition of fees free places in grant-aided Secondary schools to be increased from 25 to 40 per cent. By making Primary education free and charging fee for Secondary education it is suggested that the former is a necessity and the latter a luxury.

This view is shared by many advanced educational thinkers of different political persuasions. Mr. Mackenna, President of the Board of Education voiced the same opinion in 1907 when he said, "The schools might have as many more free places as they liked and where the schools were provided by Local Education Authority he trusted they would all be free. Before the War 41 per cent of the total cost of Secondary education was covered by tuition fees. This percentage is being gradually reduced. In addition to the tuition fees and scholarships the Local Education Authorities give a maintenance allowance to poor students. Some educational authorities hold competitive examinations for free studentships, and demand higher qualifications for a maintenance allowance. The Labour Party is opposed to this principle which in its opinion means that the well-to-do child has a right to Secondary education whatever his capacity, and the child of poor parents is

to receive it only as a special favour and on displaying a degree of intellectual ability, which no one dreams of demanding from his richer neighbour. If a child is admitted and has proved his 'capacity to profit,' it is unfair to impose a further higher test for his 'maintenance allowance.' The said allowance, in the opinion of the Labour Party, must be based on the needs of the family, and a higher intellectual standard must not be demanded from children, whose parents require the allowance, than from those whose parents do not. The argument is unshakable.

It is proposed that 30 per cent ⁷¹ of the children in attendance should be granted maintenance allowance, 80 per cent of the expenditure entailed to be borne by the Treasury. The Labour Party also demands that greater provision should be made for Secondary education and that the number of schools should be increased so that they may be able to teach 20 per 1,000 of the general population, whereas 10 per 1,000 are being taught now. The party moreover demands that more colleges should be opened for women and that the removal of all sex disabilities be made a condition for the award of grants-in-aid. The weakest part of the Labour Programme of Education is University education, which is evident from the opening paragraph —

“ The whole University system of this country is a stunted and lop-sided growth. It is stunted in that taking the community as a whole, only one child out of a thousand now reaches a University. It is lop-sided in that, in the first place, the proportion of children of working-class parents who enter a University is incomparably smaller than the proportion of children of wealthier classes, and in the second place, the proportion of girls of all classes who reach a University is incomparably smaller than the proportion of boys. This lop-sidedness is specially marked in the older Universities of Oxford and Cambridge.”

The Labour Party suggests that one scholarship should be provided for every fifty of the Secondary school boys, the value of which should be large enough to cover all expenses.

There are three difficulties or omissions in the Educational Policy of the Labour Party which require serious consideration —

(i) The first is the question of number. It is proposed to give one scholarship per 2,500 persons of the total population⁷² and this alone will increase the number of the University students in England by 15,000 which in view of the present congestion it will be impossible for the existing Universities to absorb. Putting the whole thing in a nutshell the proposal amounts to this that what is now called Secondary and Public School education should in future be termed compulsory free Primary education and University education should in future be as Public Schools now are for the rich and for the selected poor candidates. The Universities take the place of Secondary Schools and leave it to the future generations to establish on the top of the existing Universities a general University for research and advanced work on the lines of the *University de France* devised by Napoleon which never proved a success.⁷³

(ii) The second weak point in the proposal is the gap between the ages of fifteen and eighteen. The Central Schools do not lead to University education which begins at the age of eighteen and something should be definitely provided for the intervening period. The casual arrangement for keeping a few boys a little longer and preparing them for some examination is unsatisfactory. It breaks the continuity of the system.

(iii) The Labour Programme of Education has not demanded the provision of Technical education for all on German lines.⁷⁴ England cannot compete with Germany in industrial development unless Technical education is made compulsory and attendance at a Technical school is made an integral part of apprenticeship.⁷⁵ A sugges-

⁷² The proposed number of student in Secondary level is 20 in 1,000 i.e. 1/5 of the total population and the scholarship would be given to 1/50 of Secondary school children.

⁷³ See Chap III Sec 6

⁷⁴ See Chap II Secs 2 and 15

⁷⁵ This experiment was tried twenty years ago at Northumberland by Banchera Bransford now Inspector of Schools in London.

Indian Students' Advisory Committee and their local advisers can prevent the admissions of Indian students but have no power to secure admission for any. British University authorities naturally keep this power in their own hands and will not transfer it to others. Local educational advisers are not whole time officers and can not afford to give much time to individual students. The unreasonable advice of going back to India which is so often proffered to students who approach them for help is not only disappointing but unfair. They should not add to the worries of the students who are naturally bewildered on their first arrival in England but smooth their path by suggesting other course which the rejected candidate could take up. This can only be done if the advisers have more time at their disposal.

It is interesting to note that some very good work for foreign students is being done by a few non-official bodies the most prominent of which is the Y. M. C. A. popularly known at one time as the Shakespeare Hut. This association is maintained by the Council of the Y. M. C. A. Calcutta. It has just purchased property of its own at a cost of £14,500 two thirds of which was given by a Scottish friend. It provides accommodation for forty students with a moderate charge of 7s. 6d. per day. The Indian Students' Union attached to the house maintained by the Y. M. C. A. has 600 members and provides social entertainments, scientific excursions, visits to factories and popular lectures on all topics. This house is an Indian home in London.

The Government of India also maintains a house at 21 Cromwell Road, South Kensington, London for the residence of Indian students. It is a great boon to the Indian students who find in it a cheerful and congenial home on their first arrival in England and is very convenient for the students who come to London from the country for a short period. The popularity of the house is evident from the fact that it is always full. The National Indian Association and the Northbrook Society who have also hired rooms in 21, Cromwell Road, do the

useful work of arranging periodical lectures and social entertainments for the students. The latter will be more popular if persons connected with academic institutions are invited in larger numbers.

These two houses are serving a very useful purpose, but it is not desirable to add to their number. Indian students should not be segregated in Indian hostels, but encouraged to live with English undergraduates, or with good families in places where hostels do not exist. The accommodation problem is acute in London and other industrial towns, and its acuteness has become greater owing to the fact that the British Universities, unlike the German Universities, have no officer to help the students in finding suitable accommodation. Public advertisement, the only way of securing a lodging, is a method both expensive and troublesome. From my discussion with several people I received the impression that the British Universities would consider very favourably the proposal of appointing an officer to help the students in finding suitable accommodation. A grant from the Government of India for this purpose will expedite the required arrangement. The organisation in India is much weaker than the organisation in England and I venture to suggest that the Advisory Committees in India should all be abolished, and the information now supplied by them to the students and their parents can in future be supplied by the Principals of the colleges and the Vice-Chancellors of the Universities, to whom relevant literature may be sent by the Educational Advisor to the Government of India. An Information Bureau may be opened by the Government of India under the direction of their Educational Advisor. The suggested Bureau will be in a position to supply more satisfactory and up-to-date information about educational matters in India and abroad than what is supplied by the Secretaries of the Advisory Committees. The admirable *Handbook of Information* published by the High Commissioner, should be more widely advertised, and a copy of it should be sent free to every college library.

Indian students in England are very suspicious of official control, and it will be more useful if change is

made in the organisation of the Central Advisory Committee. The Indian Government may subsidise some British organisation such as the Bureau of the Universities of the British Empire, which can put Indian students in touch with the British Universities and supply the necessary information to students' parents and educational authorities. This office can also secure the recognition of Indian degrees and diplomas by the British Universities, an anomaly which I have described in Section 10.

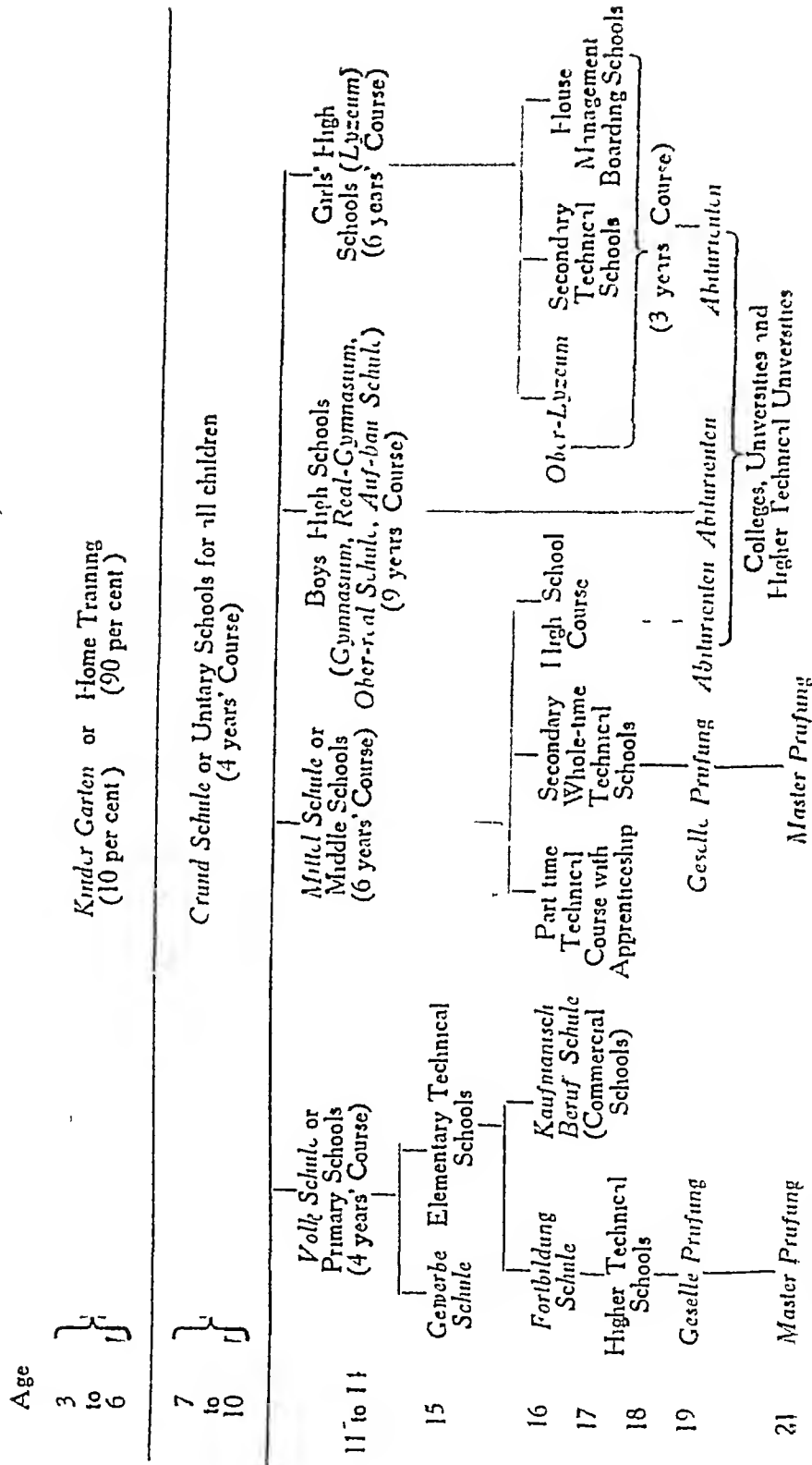
In addition to an official organisation whose efforts however honest are likely to be misinterpreted, it would be essential to have an unofficial organisation to help students and teachers who desire to go abroad for academic purposes. Every country in Europe has an unofficial organisation which is supported entirely by private contributions and in some cases subsidised by the Government.⁷⁷

I cannot close this chapter without giving some frank advice to parents which is based on my personal experience. Students who are sent to Europe should either be sufficiently ripe in years and possess the academic qualifications required for admission to an educational institution of University status, or they should be sent when quite young so that they may join the lower classes of an English Public School. Those who ought to be discouraged—and all the failures belong to this class—are students who on their arrival in England can neither join an institution of University status because they lack the necessary academic qualifications nor a Public School for which they are too old. Such students wander about aimlessly and the more fortunate among them can get entrance by the back door after passing a somewhat easy test fixed for students older in age.

I have added a chapter at the end offering advice to the students who decide going to Europe. But they should remember that the English climate alone cannot make them wise and learned. Their success will depend on their own ability and work.

⁷⁷ Mr H. L. Bhargya has already established a nucleus for such an organisation at Lucknow.

Plan of Education in Germany



CHAPTER II

SYSTEM OF EDUCATION IN GERMANY

SECTION I

General

Medieval Germany consisted of more than 300 States, some under the Church but most under lay government. The development of Prussia, the events of the French Revolution and the strong nationalising tendencies of the middle nineteenth century eliminated a large number of those States and, under the influence of Prince Bismarck, the remaining ones were in 1870 formed into the German Empire consisting of 26 separate and confederate States under the leadership of Prussia. Each of these twenty six States has now a Parliament of its own. The Central Government, or the German Empire has a separate Parliament called the *Reichstag* which is elected by the people. Seats are allocated by law to each State according to its population and importance. The President is elected directly by the people.

Certain subjects—army, foreign policy, post office, communications including railways—are considered Central Subjects and administered by the Ministers of the Empire. Railways are managed directly by the State and not through companies as in England. Subjects which have not been reserved to the Central Government are administered by the Ministers of the States. In India and England the rates and taxes are collected partly by the Central and partly by the Provincial Governments. In Germany a different procedure is followed. The Central Government collects all the taxes and a definite amount fixed by law, is given to each State for its administrative expenses. The Municipalities, however, have been authorised to levy minor taxes, such as the amusement tax, as well as special taxes for definite objects.

The larger States are divided into *Provinces*¹ and the Provinces into smaller units called *Bezirke*, which are again subdivided into smaller groups called (a) *Gemeinde* (country area) and (b) *Stadt* (town area). *Gemeinde* and *Stadt* correspond roughly to the Counties and Boroughs of England and the Districts and Municipalities of India. Large towns like Berlin have the status of a province, in the same way as London has the status of a County.

Education in Germany is not a central subject, the States are left to administer and control their own educational institutions. Each of the twenty-six States has its own Minister of Education responsible to its own legislature, and has a right to make its own laws, subject, however, to the general principles laid down by the Central Government. Educational institutions are provincial only in so far as they are administered and financed by the Government of the province in which they are situated. Their provincial character hampers them neither in the appointment of teachers nor in the programme of studies nor in the admission of students even in the case of those institutions in which there is a limit in number.

German University students keep migrating from one University to another with the object of widening their experience, and only settle down at a particular University just before their final examination. The University maintained by one State may, therefore, draw more students from other States than from its own territory.

The Universities and the High Schools are directly under the Ministers, but the Primary Schools are under the *Gemeinde* and *Stadt* (District and Municipal Boards). Almost all the educational institutions in Germany are financed and controlled by the Government. The number of private schools, aided or unaided, is very small, and they only serve the purpose of educational experiments.

The Universities are outside the control of Inspectors of Schools. A special officer, called *Kurator*, who is a civilian, is appointed by the Minister to watch the pro-

1 Corresponding to *Divisions* in India

ceedings of the University on his behalf. He is a whole-time officer and resides in the University town. All official correspondence between the University and the Minister passes through his hands.

The Secondary Schools lying in a Division (called *Province* in Germany) are supervised by the Inspector of the Division, and are administered not by a single individual but by a Board of Inspectors known as the *Provincial Schule Kollegium*. The number of Inspectors varies from three to seven according to the size of the division. The Provincial Inspectors visit every High School in the division at least once a year and also conduct the final examination of the High Schools which is called *Abiturienten*. They also conduct the examination of teachers. The teachers for High Schools as will be explained later are not brought into one central institution for training in theory and practice, but are distributed among various schools.

The supervision of Primary Schools is assigned to the Inspector of Primary Education. He sends his report direct to the Director of Primary Education and is not subordinate to the Inspector of Secondary Education. Primary Education is administered by the *Gemeinde* and *Stadt* which receive grants from the State for the maintenance of their schools. The amount of this grant is proportionate to the number of boys and the number of teachers employed by each local body. Though administered by the local bodies the Primary Schools are inspected by the officers of the State.

The office of the Minister as in France is divided into several departments each under the charge of a Director. All communications addressed to the Minister are dealt with by the Director of the department concerned. The Directors are permanent officials of the Ministry and must have had teaching experience of the grade of schools with whose administration they have to deal.

SECTION 2

Classification of Institutions

In Germany schools were first established and maintained by the Church. But Martin Luther taught a new

doctrine which Germany accepted. He proclaimed that the authority of the State as an institution was quite as sacred as that of the Church. This tended to strengthen the hands of the Princes, who soon assumed the responsibility for regulating both religion and education. The State is now responsible for the education of the people; almost all the educational institutions have been established by the government and their programme of studies is drawn up by the government after careful deliberation.

Till the age of six German children receive their education at home, but those who cannot be properly looked after by their parents are sent to the Kindergarten Schools. Children who have no parents, or who are not well treated by their parents, are sent to nursing homes. These nursing homes are maintained by the Municipalities. The number of children sent to the Kindergarten Schools is only about 10 per cent. From the age of 6 to the age of 10, all children are required by law to attend the Common Schools (*Grund Schule* or *Einheit Schule*) irrespective of their social status and the income of their parents. These Common Schools are free, and the poor boys are provided with food, clothing and books.

At the age of 10, the children are divided into three categories. (1) The richer boys go to the High Schools where they have to pay a fee. The period of instruction extends over 9 years, and at the age of 19 they pass the School Final Examination (*Abiturienten*) and can then join one of the Universities. (2) Children of families not so well off go to the Middle Schools (*Mittel Schule*) which are Board Schools of a superior type. The course of instruction here covers a period of six years (*i.e.*, from the age of 10 to the age of 16). A small fee is charged, but poor and intelligent students to the extent of about 10 per cent. are admitted free. (3) The remaining boys, who are about two-thirds of the total number, stay on in the Primary Schools till the age of 14, which is the age-limit for compulsory education. Every child is required to attend one or the other of the three types of schools till the age of 14, but children coming from richer families, studying in the higher schools where fees are charged, stay till the age of sixteen or nineteen. In most

countries in Europe compulsory education ends at the age of 14, though in some the age limit is slightly lower.² In England it is contemplated to raise it to 15.

The superiority of the German System of compulsory education is due to the fact that at the end of his (or her) fourteenth year every boy (or girl) who wishes to enter any walk of life has to work as an unpaid apprentice and at the same time attend a technical or professional school³ for a period of three years. At the end of this period he (or she) is examined by professional experts and if found suitable is entitled to a paid appointment. Even the children of peasants, who have studied at Elementary Schools, are required to attend higher village schools, where agricultural education is imparted.⁴ Every shop-boy and every farm labourer must attend a professional school between the ages of 14 and 17.

As to the boys or girls who join Middle Schools (*Mittel Schule*) at the age of 10, they have the following options after completing their six years of instruction —

(1) They may join a High School for a further course of study extending over three years and then go to a University.

(2) They may enter a shop, or industrial firm as unpaid apprentices and at the same time attend a professional or technical school of a superior grade for a period of three years.

(3) They may join a professional or technical school as whole-time students.

The instruction in these professional schools is both theoretical and practical. The students then pass an examination known as *Geselle Prüfung*. Some workshops, which employ highly trained workmen, take as apprentices only such persons as have already passed this examination. After a further practical training of three years they are again examined and, if successful, are awarded

2. In France a child is allowed to withdraw from the school at the age of 12 or even 11 if he passes a public examination. See Ch III Sec. 1.

3. See Secs 15, 16.

4. See Sec. 7.

the diploma of "Master" in their professions. A boy (or girl) after leaving school may become an unpaid assistant or an unpaid apprentice, but will not be entitled to any salary without passing the *Geselle* examination or to start an independent business without becoming a "Master" in the profession.

Now we come to those boys and girls who join a High School at the age of ten. The High School course extends over a period of nine years. The students generally pass the High School Examination (*Abiturienten*) at the age of nineteen, and are then entitled to join a University in arts, science or professional subjects. Engineering, commercial, agricultural and forest colleges are organised as distinct Universities with power to grant diplomas as well as the Doctor's degree. No student can join a higher technical college, unless he has passed the *Abiturienten* examination as a regular student or as a private candidate⁵. The period of instruction for the Doctorate differs in different Universities varying from four to seven years, as is described in detail in another section. Students who cannot attend a High School for the full period of nine years are required to join the Secondary technical institutes in the same manner as boys and girls from Middle Schools.

Adult education has recently made considerable headway. Special institutions called *Volkhoch-Schule* have been established for the benefit of men and women who desire to improve their knowledge. In spite of the fact that fees are charged for each course of lectures and that attendance is optional, one per cent. of the population attend these schools as regular *bona fide* students.

The High Schools for girls are different from those for boys. They are called *Lyzeum* and their courses extend over a period of six years. At the end of this period, the girls have three options: (1) They may join a Secondary technical school, or (2) they may join boarding schools for house management, or (3) they may con-

⁵ The system of "private candidate" has been introduced very recently and this examination is called the *Intelligence Test*. It is held by the Ministry of Education every Saturday (see p. 158).

time their education in the *Ober Lyzeum* for a further period of three years and then proceed to a University or a technical college

SECTION 3

Primary Education

It has already been shown in the previous chapter that the distinction between Primary and Secondary Schools is arbitrary. For purposes of this section Primary Schools may be defined as institutions the final examination of which does not lead to the University Matriculation Examination.

Primary education as explained in Section 1 is entirely under the Local Authorities, the *Gemeinde* and *Stadt*. The Primary Schools depend almost entirely on the grant given to them by the State. The amount of the grant is proportionate to the number of students and the number of teachers. A grant calculated on the basis of the strength of the staff alone would lead to over staffing of the schools that wish to increase their grant while one made on the basis of the number of students in average attendance would lead to overcrowding. Hence the joint consideration of the number of teachers as well as the number of pupils tends to maintain their proper proportion.

There are four grades of Primary Schools which will be discussed in the subsequent sections. (1) *Kindergarten* Schools. (2) *Grund Schule* or Common Schools which are sometimes called *Einheit Schule*. (3) *Voll Schule* or Board Schools, which are free. (4) *Mittel Schule* or Middle Schools which correspond though not exactly, to the *Ecoles primaires supérieures* of France but they admit children from the *Grund Schule* and not from *Volk Schule*.

All these schools are mixed institutions. Boys and girls are taught together in the same class. In towns where the number of boys and girls is so large as to necessitate the splitting up of a class into sections boys and girls are divided into two different sections. In some

places girls' schools are entirely separated from boys' schools

The general curriculum, broadly speaking, is the same in the schools of boys and girls, with the exception that while boys are taught wood-work, metal-work and a more advanced course of physics, the girls receive instruction in cookery, needle-work and do more of botany. There is also a difference in the character of the problems introduced and the illustrations used. Teachers in the girls' schools are mostly women

The village schools differ from the town schools not so much in the number of subjects as in the manner in which those subjects are taught. Arithmetic is taught in both the village and the town schools but the types of Arithmetical problems differ considerably. A book suited to the needs of one type of school may be altogether unsuited to those of another type

SECTION 4

Kinder Garten Schools

Kinder Garten is a German word meaning ' children's garden ' The idea was derived from the teaching of Froebel, who wished to instruct children in early years through games and recreations instead of through books. A set of twenty games, called " Froebel's Gifts," was invented, and children were made to interest themselves in these 'gifts'. Such a system of teaching was bound to become mechanical and was against the real spirit of Froebel's teaching, for he wanted the children to learn through play without external compulsion. The prescribed 'gifts' became unpopular even before the War. Dr Montessori then introduced her children's occupation-games on a different principle. Controversy about the relative merits of the two systems still prevails.⁶ Montessori invented different appliances for giving the children ideas of space, sound, colours and lengths, and at a later stage, she introduced familiar articles, such as

⁶ See *Froebel and Montessori* by Hilde Heake Marthamede, printed by Sprenger, 1927

books and buttons? The system of prescribed gifts has now been given up in Germany as well as in England, and every teacher invents her own gifts suited to the environments of her pupils. The general opinion of teachers whom I met in England and Germany, was that Fröbel's principles are sound but that they have been wrongly applied. The use of prescribed gifts in the schools throughout the world is an incorrect interpretation of Fröbel's idea. Every teacher should prepare a progressive series of gifts for herself. The material employed in these gifts should be simple in form and familiar to the children.

In Germany about 10 per cent of the children are taught in Kinder Garten Schools and the remaining 90 per cent are brought up at home. The proportion is greater in the towns than in the country. In one town school I found that 22 per cent of the children had been to the Kinder Garten Schools. The Kinder Garten Schools usually admit children at the age of three and keep them till the age of six. Children are not given any book to read but are encouraged to draw, count and sing.

The Kinder Garten classes are maintained as independent institutions and not attached to the Primary schools. I saw two such schools one of which was attached to the institute of a University Professor of Education who was carrying on experiments on the synthesis of Fröbel's gifts and Montessori's pursuits. The departments of education in German Universities are not associated with training colleges as in England. This question will be discussed later on.

I am personally of opinion that Kinder Garten schools are useful for children whose parents are unable to look after them properly or who are being spoilt either by undesirable companions, or by indulgent parents. Schools should not overburden the minds of children before the age of six, by excessive use of wall maps or by reading and writing. The occupation games should be selected by the teachers themselves with special

7 Fröbel's Gifts and Montessori's Pursuits can be seen in any school museum. See Sec 23

regard to what the children see in and out of their school rooms.⁸

SECTION 5

Grund Schule or Einheit Schule (Common Schools)

Severin declared in 1848 that Common Schools were necessary for German Unity and that the time would soon come when the entire education of Germany from the Primary to the University stage would be the same for all the people. The idea of establishing a closer social relationship between the different classes of people was developed during the War, when soldiers differing vastly in social status came into close touch with one another. After the War Kaiserdom, which had united twenty-six different States into the German Empire, disappeared, and there was at one time danger of the Empire being split up into its constituent States. But a new idea of cultural unity has been developed. It has not only bound together the existing German States, but is gradually bringing together all people speaking the German language. This cultural unity implies unitary instruction and unitary schools. In 1920, the Educational Conference of the German Empire gave a practical lead in this direction and proposed the establishment of unitary schools throughout the country. In the following year the *Reichstag* (Central Parliament) passed a law removing the first four classes from all the Secondary Schools, and directing that all children, irrespective of their social status and future professions, be taught together.⁹

Education in Germany, as I have already said, is not administered by the Central Government, each State has a right to frame its own laws for the administration of

8 The prescribed Gifts have been tried at several places in India without much success. The system should be worked out in detail by the training colleges for each province, as the environments of children in one province substantially differ from those in others.

9 The idea of having the same school for all is not a new one. The educational institutions of Islamic countries in the Middle Ages were open to all, and no fee was charged for instruction. In its present form, it was first advocated by Compagnons in France. See Chap. III, Sec. 14.

its schools. The principle of Common schools laid down by the *Reichstag*, was adopted by the Parliament of each State, and Common schools have now been established throughout the country. The movement is not restricted to Germany alone. Switzerland has also adopted the same principle. Before the War some of the German Preparatory schools (*Vor Schule*) which prepared boys and girls for High Schools were either attached to High Schools or organised as distinct institutions. They have all disappeared. Children of all classes, rich and poor alike, now attend the same school and follow the same programme of work for four years, irrespective of their future calling. These schools are sometimes called *Grund Schule* or Foundation schools and sometimes *Einheit Schule* or Unitary schools. They are established either in conjunction with Elementary schools or as separate institutions. They are all free schools, where poor boys are provided with food and books free and sometimes with clothing also by the municipalities. There is no uniform for the children but they dress in a manner that makes it difficult to find out their social status in the class room. The establishment of such schools is the natural result of the socialistic movement which is affecting every country more or less.

I visited three of these schools and had a talk with some parents about the new experiment. Parents, teachers and children all seem satisfied with the change. Children of the well-to-do families sit side by side with those belonging to the poorest families and receive the same instruction. Boys of different social ranks form good friendships, and the richer boys often invite the whole class to their birthday parties. A teacher in one of the schools told me that boys of the well-to-do families were not inclined to mix with boys of their own status. They generally quarrel with one another and he was often compelled to put boys of lower social status between those belonging to the richer classes. I also took special interest in examining the boys and asking the teachers about the intellectual powers of the children coming from the different strata of society. I found that, with very few exceptions, children belonging to better families pos-

essed a better intellect than those coming from the working classes ¹⁰

The syllabuses of studies, courses of instruction, and the periods for the teaching of each subject are prescribed by the Minister of Education and are carefully drawn up so as to meet the requirements of all higher institutions. The children are taught three hours a day and have three excursions a week with their teachers. The class rooms are well equipped with charts and apparatus, and the walls are coated black all round up to the height of the children for black-board demonstration. It enables about half the class to do black-board work at the same time.

Twenty-two per cent of the children of the classes I visited, spent three years in the Kinder Garten Schools, from the age of three to the age of six, but this previous training had not put them above others. Several teachers told me that they would rather have children who were trained at home than those educated in the Kinder Garten Schools.

SECTION 6

Primary Schools (Volk Schule)

Education is by law compulsory for every boy and girl for eight years from the age of six to the age of fourteen, of which the first four years must be spent in the Unitary schools described in the previous section. At the age of ten, the children are divided. Those who can not afford to go to the Secondary Schools where fees are charged, stay on in Primary Schools for a further period of four years. The Primary Schools are of two grades (1) *Volk Schule* or Schools of the People, and (2) *Mittel Schule* or Middle Schools. The village schools are somewhat different from the town schools, and on account of

¹⁰ I was told both on the Continent and in England that even brilliant students from lower classes who have acquired a University training, cease to develop after a certain stage and the boys of well to do families continue developing their intellect and are more successful in life, even if they do not do well in University examinations.

their important bearing on Indian conditions. I shall describe them separately in the next section.

Mittel Schule —The industrial and commercial development of the country required a class of persons above the rank of workmen but not necessarily trained at a University. This led to the establishment of *Mittel Schule* (Middle Schools) half way between free Board Schools and Secondary Schools. These Middle Schools are not a continuation of free Primary Schools, they are parallel to the Primary Schools and High Schools and midway between them. Their courses of instruction are entirely different. The distinction between *Mittel Schule* (Middle Schools) and *Voll Schule* (Elementary Schools) is that though both these schools admit children at the age of 10, the Middle Schools are staffed with better teachers and charge nominal fees ranging from £8 to £12 a year. The courses of instruction in the Elementary Schools which are all free extend over a period of four years while the Middle Schools have a six years course of instruction. In addition to the subjects taught in the Primary Schools¹¹ they impart instruction in one or more foreign languages, book keeping, physics and chemistry and, in some cases, in biology also. The method of instruction, even in common subjects is different. Both Primary and Middle Schools are maintained by the Local Authorities and receive grants from the State. The grant (as explained before) is not fixed in a lump sum but is calculated on the number of teachers and the number of pupils in all the schools maintained by the local body. Under this system the local bodies cannot claim an increased grant by overcrowding the classes or appointing a disproportionately large number of teachers. The Middle School children were formerly debarred from entering the Universities but this restriction was removed in 1902. The courses are now so drawn up that children may go to High Schools at the age of sixteen,

11 The subjects of instruction in Primary School are Religion, German, Elements of Political Science, Geography, Nature study including Practical Physics, Arithmetic, Geometry, Geography, Drawing, Music, Gymnastics, Manual Work including Gardening and for Girl Needle work and Cooking.

and prepare for *Abiturienten* examination In the top classes, the courses are split up into four sections The time-table of the highest class is given below —

*The Time Table of the Highest Class of a Mittel Schule
(or Middle School)*

(Age of the Pupils Sixteen)

Subjects	General Section A	Classical Section B	Section with Commercial Bias C	Section with Industrial Bias D
Religion	2	2	2	2
German Language	5	4	6	6
English	4-5	4	3-5	3-4
French	5-6	4-5	3-5 if English not taken	3-4 if English not taken
Latin	Nil	7	Nil	Nil
Geography	2	Nil	2	2
History	2	4	2	2
Mathematics	4	5	4	4
Book-keeping or Geometry	Nil	Nil	2	3
Natural Science	3-4	3-4	2-3	4-5
Drawing	3	2	2	4
Gymnastics ...	3	3	3	3
Hand work, Garden- ing, Practical work	2 (Optional)	Nil	2	2

Statistics—In Germany with a population of 62 million, there are 54,500 Elementary Schools of which 1 744 are Middle Schools and the remaining ones Primary. The total number of children under instruction in these schools is 7 million,¹² the number of boys and girls being approximately equal. The number of pupils in the Middle Schools is about 5 per cent.¹³ The teachers in Primary Schools number about 2 10 300 of whom 22 per cent are women. The number of children per teacher is 33.3.

Mixed Classes—I received divergent opinions about the desirability of having mixed schools and mixed classes for boys and girls in the Primary and Middle Schools (*Voll and Mittel Schule*). In some schools boys and girls are taught together in the same class in village schools this is of course unavoidable. In smaller towns boys and girls attend the same school but are separated in parallel sections. I was informed that convenience of the time table was the chief reason for putting all the boys together in one section and all the girls in another. In these schools boys and girls do not come in contact with one other even in games. In larger towns as often as not, boys and girls are taught in separate schools.¹⁴

The success of education does not depend so much on the printed programme drawn up by the higher authorities as on the manner in which the prescribed subjects are taught. No text books for instruction are prescribed teachers are left to make their own choice. Recent political conditions, however have compelled the government to prescribe reading books. The teachers do not attempt to thrust knowledge down the pupil's throat but try to stimulate him in discovering things for himself. Every pupil is inspired with the feeling that he is discovering something new for himself and that nothing is being forced into his mind. Teaching is brought into close touch with the realities of life the pupil in the class room is conscious of a kinship between his life at school

¹² The exact number is 6,959 113

¹³ The exact number is 329 113

¹⁴ Experiments are being made to have mixed hostels in residential schools. See Sec. 10.

and his life at home and does not feel that he is sitting in an imaginary world. Great stress is laid on the development of the power of observation (*Anschauung*). Elaborate charts illustrating country and town life and factory organisation are used to develop the children's powers of observation. The study of animal and plant life and weather conditions is also encouraged.

Gymnastics and drill were compulsory subjects before the War, since its termination special attention is paid to games and sports. Several million pounds have been spent in Berlin alone in preparing play-grounds for school children. This is due to the impression that the secret of English character training lies in games, and is strengthened by well-known English slogans e.g., "The battle of Waterloo was won on the playing fields of Eton," etc. School excursions are much encouraged and the whole school is officially required to have a scientific excursion at least once a month.

Religious Instruction — Majority of the people in Germany belong to the Protestant or the Evangelic creed, but there is also a minority of Roman Catholics and Jews, the former being about 30 per cent and the latter about 0.3 per cent of the total population. Both the Roman Catholics and the Jews have their own schools staffed with teachers of their own religious persuasion and maintained entirely by the State. The Roman Catholics also have their own Training Colleges for teachers, but there are no Jewish Training Colleges, because apart from its small number, the Jewish Community is scattered all over the country. In small towns, where separate schools are impracticable on account of the inadequate number of the minorities, children of other religious persuasions are admitted to Protestant Schools. Taking the figures for the whole country, we find that there are 1.7 per cent Catholics and 0.4 per cent Jews in Protestant Schools, while in the Roman Catholic Schools, there are 0.8 per cent Protestants and 0.1 per cent Jews. Religious instruction is given by the class teacher, but a teacher has a right to refuse it. Such cases, however, are rare in practice. Parents can withdraw their children from religious instruction and are also allowed to provide religious instruction for them in other forms in the

same building but not during the school hour. Religious instruction is of a general nature—it is restricted to Bible stories and the history of the Church. Catechism, which used to be taught before the War, has now disappeared. After the War the Socialist Government tried to remove religious instruction altogether from the schools. In BAVARIA *Simultan Schulen* (Mixed Schools) were established. They were schools of a new type and received children of all religious denomination. Instruction was common in all subjects except religion for which special teachers were appointed. The Catholic children were taught in the school by a Catholic priest, the Jewish children were given over to the Rabbi (if there was one in the community) and the Protestant children were instructed by the local Pastor. If the school was large enough a special teacher was to be appointed for full-time service. Teachers of all denominations were employed for teaching secular subjects.

This arrangement did not satisfy the Catholic priests who denounced the *Simultan Schule* from their pulpits and requested the parents to keep their children out of them. The charge was that these schools were not religious, especially since the various branches—geography, drawing, singing and the like—were no longer taught in the sense and the light of the Catholic Church. In the famous debate of January, 1922 on denominational schools a Catholic member said that religion ought to form a part in the teaching of mathematics while Herr Hoffmann the Communist member made a powerful and sarcastic speech against all religious teaching in schools. As a result of this and other discussions religious instruction remains a compulsory subject of study in the school curriculum but dogmatic instruction is replaced by the teaching of the Bible, Biblical stories and the history of the Church. Religious instruction is now imparted by teachers of secular subjects. Denominational institutions continue to exist and are supported entirely by the State.

Inspection—Every circle (*Gemeinde* or *Stadt*), has an Inspector appointed by the Minister. He inspects all schools lying in his circle at least once a year. holds

periodic conferences of teachers and explains to them recent theories on the teaching of particular subjects. He also invites the teachers of his circle to see new experiments in teaching in any school in his own circle or in a neighbouring circle. He visits the school as an adviser and not as an unfriendly critic. He does not report the mistakes of teachers, but, instead, takes the class himself and shows the teachers how to do their work. It is easy to criticise the work of a subordinate in a report, but it is not always easy to demonstrate a better system practically.

Versorgungsamt —A department for the welfare of children in municipal and district boards exists in all European countries, but it is better developed in Germany. Every municipality has a special department called the Department of Children's Welfare.¹⁵ The moment the birth of a child is reported to the municipality (which is obligatory by law), a municipal nurse comes and inspects the child and looks after all the requirements which the parents cannot provide. If a child becomes an orphan, or is maltreated by its parents, or is not properly fed and clothed, he is sent immediately to a nursing home. Children living in nursing homes are sent to the neighbouring *Kinder Garten* and Primary Schools. The father of the child, if alive, has to pay a fixed amount for its maintenance. This department also looks after the poor children in Primary Schools. They are given free meals during school hours and, if necessary, are supplied with books and clothes. Medical aid is also provided free of charge to poor students.

SECTION 7

Village Schools (Vorschule)

Agriculture in Germany improved considerably during the War and has been steadily progressing since. Land which was formerly left for pasture has now been brought under cultivation. The country had to depend for a long time on her own internal resources and was by

¹⁵ In England this work is done more by voluntary societies than by official organisations.

sheer compulsion driven to undertake the scientific study of agriculture and the practical application of scientific knowledge to the improvement of fruit vegetable and grain. Agriculture is a paying concern now and peasants like stick to their work.¹⁶ Forest plantation has systematically advanced as the Germans have devised a method of manufacturing from vegetable products a large number of articles which were so long regarded as exclusively animal products. Faculties of Agriculture have been established in several German Universities and independent Agricultural Colleges have been improved. Experimental farms have been opened in large numbers there being one farm for each group of six villages. Villages in Germany are grouped together under the name of *Commune*. Every circle has a School Inspector and all the village schools are under him. The circle which I had the opportunity of visiting had seventy five villages with a population of 10,000. Each of these seventy five villages had a school teaching boys up to the age of fourteen which is the age limit for compulsory education though some of them consisted only of one teacher and one class. A second teacher is allowed if the number of students exceeds sixty.¹⁷ In one school which had only one class there were as many as sixty two children. The circle mentioned above has three doctors and two dentists who visit each school once a month. At the time of his admission every boy is thoroughly examined by the doctor and the results are entered on a prescribed form.

The doctor visits each school at least once a month. Defective students selected by the doctor are sent to special schools called *Hilf Schule*. There are special schools for blind deaf dumb mentally defective and sickly children. These special schools had no special programme of work but in 1921 the courses of study

16 In England farming is not a paying concern. Fields are converted into pasture lands and hence the village population is constantly drifting to the town areas in larger number.

17 The number is large but the present financial position of the Government does not permit them to employ a teacher for a smaller number. Single-teacher schools in some countries divide the pupils into two batches. They teach the first batch on Mondays Wednesdays and Fridays and the second batch on Tuesdays Thursdays and Saturdays.

for each type were drawn up by the Ministry of Education. The progress of the children in these schools is carefully supervised. In Germany, special schools exist not only for mentally defective boys, but also for exceptionally gifted children.

The chief feature of these village schools does not lie in the subjects taught but in the manner of teaching them. Arithmetic, for example, is prescribed for all schools, but the problems used in each type of school are different. Different text-books are also written for different types of schools. The time of the boys is not wasted on obsolete or imaginary problems, they are only taught to devote their attention to carefully selected problems which are applicable to their every-day life. They are required, for instance, to measure the area of a field and to calculate the price of seeds and the sale of their produce. This is true also of all other subjects. Drawing, history, geography and reading books, all force the attention of the students to the real problems of life. Teachers in village schools are selected from the neighbourhood and know the agricultural conditions of the district. Every school has a big garden, each boy is given a small plot of land which he cultivates, sometimes independently and sometimes in groups, and is allowed to take home the produce of his plot. The working of plots by company organisations, which exists in some English village schools, is not found in Germany.

Boys are taken once a week to experimental farms and the teacher explains to them the latest discoveries in agricultural science. General lectures on agricultural subjects are arranged in the school and attended by the parents also. Village Primary Schools do not impart instruction in agriculture, but the education they impart has a strong agricultural bias. This bias is imparted by a proper selection of books, by the instructions of teachers, by school farming, by constant visits to agricultural farms and by periodic general lectures on farming and fruit growing. The law dealing with agricultural conditions is also explained to the children. Village schools are closed for long vacation during harvest time.

Compulsory general education stops at the age of fourteen when the boys begin to work on the fields. This should be considered as the beginning of agricultural education. Every child is compelled by law to study for two years more in a Higher Village School (*Dorf Volkshoch Schule*)¹⁸. These schools do most of their teaching work in winter months when agricultural work is slack. The Higher Village Schools have been organised on the model of village schools in Denmark but they differ from them in three important respects. (1) Study in the Higher Village Schools in Germany is compulsory while it is optional in Denmark. (2) Village Schools in Denmark are Boarding Schools while they are Day Schools in Germany. (3) Teaching in Denmark is general with an agricultural bias but is more specialised in Germany. The number of these schools is also much larger in Germany than in Denmark. In a circle of seventy five villages which I visited there were 96 Higher Village Schools (i.e. one school in every $2\frac{1}{2}$ square miles). These schools are connected with agricultural farms.

SECTION 8

Secondary Education

(*Gymnasium Real Gymnasium Ober real Schule and Aufbau Schule*)

All children as described in Section 3 have to attend the Unitary Schools for four years. The Secondary Schools admit boys and girls at the age of 10 and have a nine year course¹⁹. About 12 per cent of the total number of students join the Secondary Schools. The percentage is much higher in towns. In a Unitary Town School which I visited I found that 30 per cent

18 The following subjects are taught in the Higher Village Schools —

(1) German (2) Arithmetic (3) Geometry (4) Drawing (5) History and Practical Science, (6) Geography (7) Gymnastics (8) Vocal Music, (9) Physics (10) General and Special Planting (11) Chemistry (12) Plantology (13) Zoology (14) Vegetable and Fruit Gardening (15) Book-keeping (16) Animal Teaching.

Every student specialises in (1) General Cultivation (2) Gardening, or (3) Vegetable and Fruit Vegetation.

19 The classes are called *Sexta Quinta Quarta Unter tertia Ober tertia Unter sekunda Ober-sekunda Unter prima Ober prima*.

of the children were thinking of joining High Schools. The number of High Schools is 2,400, teaching about 800,000 pupils. The largest school has about 800 students. The total number of teachers is 42,561, of whom about one-fourth are women. The High Schools are divided into four classes —

(1) *Gymnasiums* are the High Schools of the oldest type. In these schools both classical languages, Latin and Greek, are compulsory. They also teach, in addition to German, a modern European language. More stress is now laid on English than French.

(2) *Real-Gymnasium*. In these schools Greek is not taught but Latin is compulsory. A second Modern European language is taught in place of Greek, in addition to Botany and Zoology.

(3) *Ober-real Schule*. These schools lay special stress on modern sciences. Advanced courses in Mathematics, Physics, Chemistry and Biology take the place of Latin and Greek.

The weekly time table of the highest class (*Ober prima*) will show the difference in the syllabus of three types of schools. The table of the new experimental schools, called 'Reformed Gymnasium,' is also given.

Subjects	Gymnasium	Real Gymnasium	Ober-real Schule	Reformed Gymnasium
Religion —	2	2	2	2
German —	3	3	4	3
Latin —	5	3	Nil	4
Greek —	6	Nil	Nil	Nil
Modern European Language —	2	3	3	4
Second Modern Euro- pean Language —	Nil	4	3	3
History with Civics —	3	3	3	3
Geography —	1	1	1	1
Mathematics —	4	4	5	4
Science —	2	4	6	3
Drawing —	1	2	2	2
Gymnastics and Drill —	2	2	2	2

Singing and Modern Languages, such as Italian, Spanish and Russian, are optional.

(1) *Aufbau Schule* — These schools were established after the War in response to the general desire that the Secondary education should no longer be the privilege of only those who can afford to pay high fees. They correspond to the Colleges of France: there is provision for exempting a large number of poor students from payment of any fee. These schools have no distinct syllabus of their own. They mostly have parallel classes teaching the syllabus of *Real Gymnasium* and *Ober real Schule*.²⁰

To provide further facilities to poorer students evening high schools have also been opened at several places which are attended by persons who work in factories in day time. The German System had no room for private candidates as the Matriculation Examination is conducted by the teachers themselves. In order to provide facilities to poor students they have now introduced the system of Private Examination which is conducted by the Ministry of Education. It is held every Saturday and is known as *Intelligence Test*. Those who pass this examination are entitled to join a University.

The Matriculation Examination is called *Abiturienten Examen*. The manner in which it is conducted is described in detail in a later section.²¹ No other Public or Promotion examination is held during the thirteen years of school education. Students are promoted on the daily record and reports of class teachers.

Unlike England and France all High Schools in Germany are Day Schools. Students coming from outside hire rooms and make private arrangements for their meals. In some places the teachers receive students as paying guests. A few private schools, however are run as Boarding Institutions on the lines of English Public Schools.²² These schools are private institutions but get a Government Grant. The Germans have the impression that they lost the War on account of the superior statecraft of England the training for which is imparted in the residential schools of that country. Several German educationists went to England to study

20 See Chap. 2 Sec. 19

21 I have described one such school in a later section.

the mode of instruction followed in English Public Schools,²² but they had to give up the idea of extending the Residential School System in Germany as it was too expensive. The programme of work for each type of High Schools is prescribed by the Ministry of Education which also fixes the hours to be devoted to each subject. The choice of text-books is left to the teachers with the exception of reading books in German and other modern languages. The students have to attend 30 to 33 periods a week for compulsory subjects and 15 periods a week for optional subjects. The schools work for 5½ hours in the morning and about 2 hours in the afternoon. The optional subjects are music and manual instruction, which in fact all the boys take up.

Every teacher gives instruction for 25 periods a week and always in more than one subject. The system of specialist teachers, teaching only one subject, does not exist till we reach the University stage. A period is usually of 55 minutes' duration, five minutes being officially allowed for change of classes. On account of the recreation interval, however, some periods are of 45 minutes' duration only.

I will now describe in some detail two types of schools—an ordinary High School and a Boarding High School.

SECTION 9

Detailed Description of a Typical High School in Germany

(The *Ober-real Schule* in Gottingen)

This school teaches the syllabuses of *Real Gymnasium* and *Ober-real Schule* in parallel classes. It has 650 students, who are taught in 23 different classes or sections. There are 32 teachers, so that the proportion of students per teacher is 20. There are 50 students

²² I had a talk with one of the German educationists who went to England to study the English Public Schools. He spoke highly of their efficiency as character building institutions, but he thought that they were comparatively poor in general instruction.

in every section of the lower classes. The total expenditure of the school is £12,500 of which about half is realised from fees. The salaries of the teachers vary from £250 to £500 a year. The Head Master (called *Director*) does not get any special salary. He gets the pay of his rank as a teacher together with the allowance of a Director which has been fixed at £60 a year for every school. The number of free scholars is about 20 per cent. In Germany there is a standing rule that the second son or daughter pays 75 per cent of the maximum fees and third son or daughter pays 50 per cent and the fourth and subsequent children are educated free. The children need not be in the same school. This concession is allowed even if the children attend institutions of different grades, such as Universities, Professional Colleges and High Schools. The school has just been shifted to a new building and its equipment and design are most modern. Every room has an electric clock and the mother clock²⁵ is electrically regulated by the observatory.

The teaching of Science and Mathematics is a special feature of the school. Scientific instruction is more practical than theoretical. Students spend more time in laboratories than in class rooms and even the class rooms look like laboratories. A separate table, fitted with electric current and gas and water pipe, is provided for each student. On this he can not only keep his books and papers but also perform his experiments. Students do not only see the experiments performed by the teacher but also perform the experiments themselves. This practice is similar to the one followed in the Geography lessons where every student has a miniature map on his own table.

Mathematics is taught according to the new plan worked out by Professor Klein²⁶. English and French Schools are usually backward in the teaching of Biology.

²⁵ The cost of the mother clock is about £30 and the dial for each room costs about £2. All these clocks indicate the same time automatically.

²⁶ The Director of this school is an old pupil of Professor Klein and is an authority on the teaching of Mathematics.

German Schools, however, have biological laboratories, museums and gardens superior to those of an average first-class college in India. The absence of provision for good biological teaching in schools is the cause of paucity of undergraduates reading for Biological degrees in English Universities ²⁷

Since the War, special stress has been laid on sports and games. A most modern and up-to-date gymnasium (called *Turnhalle*) is provided in the school. The students can have hot or cold baths immediately after their exercises. Gymnastics and drill are recognised as subjects of study, and are treated as equivalent to other subjects in the examination. Military drill and the use of fire-arms is forbidden in German Schools, and they have no military volunteer corps.

One day in a month is set apart by law for scientific excursions. It is called *Wandertag* ²⁸. All the classes of the school go out for scientific excursions under the supervision of their teachers. The smaller boys go to the neighbouring towns and spend their time in nature study. The bigger boys visit factories, docks and other important industrial centres. Every student prepares his own notes and has to write an account of his visit. Some of these are published in the school magazine edited by the boys under the supervision of the Head Master.

The students have societies of their own, but the debating society and the reading-room which we find in every school in England do not exist in Germany.

Parents' Association (Elternbeirat) — Every school in Germany, according to law, has a Parents' Association whose members are elected by the parents. The number of members depends on the size of the school, there being one member for every 50 children. The objects of the association are to co-ordinate the training of the home and the school, to create an interest in the work of the school among the parents, and to enlist their sympathies in the

²⁷ See Chap. I, Sec. 10

²⁸ It was originally established by the Government during the War. The children were taught to march in file carrying a heavy kit. The intention was to recruit older children for military service.

maintenance of a good tone in the school. Some of these associations have done useful work.

The right to visit school classes has been granted to parents. Before the War such a proposition was regarded as wholly inadmissible. Freedom has now gone even further. The pupils have the right to elect one of their own members as speaker (*Sprecher*). He represents to the teacher and *Flaternbeirat* the wishes of the pupils regarding the curriculum, hours, etc. The pupils have no authority to enforce their demand, but their requests must at least be heard.

The school also has a *Landsheim*. This is a house situated in a country place at some distance from the town. Each class, under the supervision of a teacher, goes out and lives in this house for one week every term. Students pay for their meals; they have class lessons for about two periods a day, but spend most of their time in practical work. The teacher of physics makes telephones and establishes telephonic connection from simple materials. The teacher of mathematics directs the attention of pupils to the study of the heavens. The *Landsheim* has a farm of its own on which also the students work. The object of these country houses is to make students who are residing in towns familiar with rural conditions and to bring their study in touch with real life. In addition to plenty of fresh air and exercise which they get, they are also trained to do all the work for themselves and to live under simple and primitive conditions.

SECTION 10

Boarding Public Schools in Germany

(Landschulheim)

Towards the end of the last century Dr. Lietz, who was influenced by the English System of education, established three Boarding Schools called *Landschulheim* in different places in Germany, one for younger boys, another for older boys and the third for boys of intermediate ages. His lower school was similar to the Boarding Preparatory Schools of England while the other

two schools were like the two parts of an English Public School²⁹ Class teaching was subordinated to sports, social intercourse and excursions. Some of the teachers of Lietz's Schools, who thought that more attention should be paid to intellectual and moral education, separated themselves and formed Boarding Schools of their own. They received great support after the War on account of the general feeling in Germany that the Public Schools had given the English people special training in state-craft, which the German System failed to provide. At present there are fourteen 'Public Schools', they are all private institutions, though some of them receive nominal grants from the States. They are supported mainly by the fees paid by the students. I visited two of these schools and would like to describe one of them in detail.

The school has a 'Governing Body' consisting of half a dozen eminent persons residing in big towns. They usually meet once a year to discuss the general policy, the extension of the school buildings or the addition of new branches of instruction. They also appoint the Head Master. The 'Managing Body' of the school consists of the Head Master and senior teachers, who are on the permanent staff. New appointments are, in the first instance, made for short periods by the Head Master, but the approval of the senior teachers is necessary for the confirmation of a new member of the staff. The Head Master has not the same autocratic powers as in English Public Schools, nor is he constantly pestered in small matters by individual members of the Governing Body, as in India.

The school has 190 pupils. The students pay fees from £90 to £120 a year in four instalments. The fees vary with the class. Some of the pupils are admitted at reduced rates. The total income from fees is £19,000 per annum, which is enough for all the expenses of the school. No distinction is made between the boarding budget and the school budget, or between capital and recurring expenditure. The fees do not cover capital

²⁹ These schools were situated at Gebsee for smaller boys, at Hanbinda for middle stage boys, and Bieberstein for bigger boys.

expenditure such as the expenses for the construction of new buildings.

An important feature of the school is that boys and girls live together in the same hostel. The idea was borrowed from the Quaker Schools in England. The rooms in which the girls lived could be separated from the block occupied by the boys. I enquired from the teachers as well as from the parents whom I met elsewhere about the tone of these mixed schools. They all thought highly of the system and I could not myself discover anything against it. The experiment has not however been tried long enough to enable us to form a judgment. The boys and girls both stay till the age of nineteen when they pass the *Abiturienten* Examination which is conducted in the same manner as in other High Schools i.e. by teachers of the subject under the general supervision of the Divisional Inspector. In Private Schools the Inspector takes greater interest than in Government Schools. The girls have to study the same subjects and pass the same Examination as the boys. There is however a difference in the manual work prescribed while the boys learn wood work metal work and machine technique the girls are taught needle work cookery and domestic economy.

No punishment of any kind is inflicted on the pupils. Corporal punishment is altogether prohibited in Germany. The Head Master told me that cases of breach of rules did not arise. This may be due to the fact that they have no rules to break the familiar brochure of 'must and must not' given to every boarder in other institutions is not found in this school. The Germans as a people are well-disciplined and follow the rules of every society with military precision. The school has no proctors and no monitors boys and girls are allowed to have their own ways. Smoking and drinking are not permitted. Teachers also are not permitted to smoke in the presence of students.

In the English Public Schools a few teachers are selected and appointed House Masters. The majority of the staff are provided with or find accommodation for themselves and are expected to join in the games and

social life of the students. In Germany every teacher is a House Master also and, if married, his wife is appointed a Governess or House Mistress. The children of the masters are all admitted as boarders on nominal fees or free of charge.

The house-system which is an essential feature of the English Public Schools does not exist in Germany. The system in England is so popular and deep-rooted that even the Day Schools are divided artificially into different houses³⁰. In this school the students live in families of ten, boys and girls are not mixed up in the same family. Each family consists of a male teacher, a female teacher who is very often his wife, and ten students either all boys or all girls. They all sit on the same table in the common dining room and arrange excursions together. Each family has a sitting room where the students play indoor games³¹ and prepare their lessons. The older boys have a bed-sitting room.

The boys are not divided into families for games, which are arranged by the students as a whole. They play all games except cricket, which (they say) is too slow and wastes much time. The Boarding Schools have more excursion days than ordinary schools³². They spend two weeks every year in excursions and as the boys belong to wealthier families, they can afford to go to greater distances and even to foreign countries for a longer time.

All the students have their meals together in the common dining room. Members of the same family sit on the same table. The family tutor and the family lady-tutor sit on either side of the table. The kitchen is fitted up with electric machinery³³. This school is the first and only institution I have seen in any country, where students did not complain about food, the secret lies in the fact that all the masters, including the Head Master,

30 See Chap. I, Sec. 8.

31 Ping-pong is the most popular game.

32 They have three excursions a year—eight days in summer, three days in autumn and three days in spring.

33 Bread is cut into slices of equal thickness. The vegetables are all peeled by machines and the flour is kneaded for bread by electric machines. All these machines can be obtained at a moderate cost.

and their families have the same meal on the same table and no teacher is allowed to have a separate kitchen of his own. After the mid day meal, all the students assemble in the courtyard or in case of bad weather in a hall and the Head Master makes a short speech, followed by one or two teachers and students. The engagements of the day are also notified here. Five students selected by their fellow students are appointed to read the home and foreign daily papers and give a short summary of the news. Once every fortnight a student prepares a special discourse on some current topic in which he also quotes the opinion of foreign newspapers. The teachers are expected to help him in preparing it. The students have a reading room and a library. The reading room is run by the students but the library is in charge of a teacher. There is no debating society.

The teaching and the equipment are most modern. The students have a good collection of books, and every teacher has 200 to 500 books in his private library. Lecture rooms are scattered all over the place and they are not constructed side by side in a compact block. Great stress is laid on the practical side of education and the students spend a few hours every afternoon in manual work. Besides doing wood work and metal work they also take part in gardening and farming. The school furniture are made and petty repairs attended to by the boys. The science lecture rooms are so arranged that they may also be used as laboratories.

Boarding Schools in Germany are in an experimental stage but there is a general demand for more such schools. In Saxony two Boarding Schools have been established in recent years. Loyalty to and patriotism for the house and the school which is an essential feature of the English Public School System have not yet developed in the German Boarding Schools.

SECTION II

Universities and Technical Colleges (Hoch Schule)

The institutions for higher studies which admit only students who have passed the High School or

Abiturienten Examination, may be classified as follows :—

- (1) Universities They have the faculties of Arts and Science, Medicine, Law, Theology and in some Agriculture also,
- (2) Engineering Colleges or *Hoch Schule* They have the faculties of Electrical and Mechanical Engineering, Architecture, Civil Engineering, Chemical Engineering and in some cases a humanistic faculty for the training of teachers,
- (3) Veterinary Colleges;
- (4) Agricultural Colleges,
- (5) Forest Colleges.
- (6) Commercial Colleges

The last four have a single faculty, but they all have the right to teach, examine and award the Doctor's degree. Higher instruction in technical and professional subjects is not concentrated in the Universities as in England but is imparted in separate colleges which have the status and enjoy the privileges of Universities. Germany with a population of 62½ millions has 49 Universities, of which 23 are for general subjects, 10 for Engineering studies, 4 exclusively for Agriculture, 2 for Veterinary Science, 5 for Forest and 5 for Commercial subjects.

The number of students in these 49 Universities is 113,657, of whom 8,824 are foreigners. The number of Indian students is 67. The number of teachers is 7,489, of whom 2,441 are professors. The number of female students is rapidly increasing.

Though provision is made for the teaching of all subjects in every University, each University specialises in certain subjects, and the best professors in that subject are brought together in such Universities. Detailed information about the choice of Universities for the study of a particular subject may be obtained from the third volume of *Minerva* or from the *Die Hoch Schulen Deutschland* ³⁴

³⁴ The English translation of this book is in the press and may be obtained free from the author, Professor Dr Remme, Director of Foreign Informations, 4 Unter den Linden, Berlin.

The Doctor's degree is awarded by each of these 49 Universities but in certain subjects an Intermediate Examination corresponding to the B.A. and B.Sc. of England or the *Laurence of France* is also held. This Intermediate Examination exists in the faculties of Theology, Engineering, Agriculture and Commerce. In Engineering Colleges this examination is divided into two parts.³⁵ The Engineering Colleges have a special department to advise students in selecting the industry they should join and to recommend them directly to the factories for a year of practical work which is a necessary part of the engineering course. The Germans in spite of the fact that they have no colony at present still carry on their colonial college at Wittenhausen. The college has 2,000 students and teaches among other subjects botany, general agriculture and methods of improving the internal resources of the country.³⁶ All these Universities, like Government colleges in India, are maintained entirely by the State.

Six years' study is necessary for the Medical degree. An examination is held at the end of the second year. Students are then admitted to hospital work. The largest Medical School in Europe or in the world, is at Vienna, where they have a hospital with 20,000 beds. The Medical Faculty is very largely maintained by the Rockefeller Trust.³⁷ For the benefit of English speaking students, lectures are also arranged in the English language for post-graduate students. The association established by Americans supplies all necessary information about medical studies at Vienna to English speaking doctors. It is called the American Medical Association and its address is 9, Alsac Strasse, Vienna.

The Universities of Germany have no class system and no graduated series of lectures. This is very perplexing. A student who comes fresh from a High School,

35 For details of this examination see Sec. 13.

36 It is remarkable that England in spite of having the largest number of colonies has no such institution and every Englishman going to a colony has to depend on his own intuitive knowledge and personal experience to develop the agricultural condition of the land in his charge.

37 It is a trust endowed by Rockefeller for the study of Medicine all over the world.

where he was accustomed to systematic class-teaching under strict supervision, suddenly finds himself absolutely free, without any official guidance³⁸ There are no tutors and he does not know what to do He gives little attention to his work and spends practically the whole of his time in societies, *Kneipe* and excursions After wasting a year or two there, he shifts to another University and begins to study seriously Every educationist in Germany is conscious of this wastage, but no serious attempt has been made to stop it, as any interference with the liberty of the students would be strongly resented. Two distinct proposals, however, have been made after the War, both of which are now under consideration —

(1) The establishment of Intermediate Colleges between the High Schools and Universities, with systematic class-teaching but enjoying more academic freedom It is suggested that these colleges should have a two-year course, of which one year is to be taken from the school course, and the other year from the University course, which is at present a year of wastage

(2) The establishment of a new faculty in the University itself under the name of the "Humanistic Faculty" The teaching in this faculty is to be preliminary to the specialised teaching in other faculties This proposal practically means that the Intermediate Colleges suggested above are to be attached to the Universities The organisation and courses of instruction for this new faculty have been formulated The courses include subjects of general culture, and pedagogic and political science³⁹

A proposal to introduce a Pass degree has also been made and is due to the abnormally large increase in the number of students In the German Universities, most of the faculties have at present but one degree, the Doc-

38 I met a student who came fresh from school He asked his friend, in my presence, the name of the best book in Dynamics He was recommended Routh's *Rigid Dynamics* which has been translated into the German language It is an advanced book and is usually taught in the M.A. classes in India I found him on the following morning in the Mathematical Reading Room studying this book without my previous knowledge of even Elementary Mechanics

39 See *Die humanistische Fakultät* by Von Sella

to it which is obtained by research work and there is none obtainable by examination only.

Administration—The administrative machinery of the Universities is the simplest of its kind. There are only two authorities and two officers. The two authorities are the Faculties and the Senate and the two officers are their Presidents.

Every teacher of the University is a member of the faculty to which his subject belongs. The Senate is a small body consisting of about 11 members who are elected by the faculties from amongst their own members. The number of members elected by each faculty is fixed by Statute. The members of the Senate are the only persons entitled to wear gowns in the University. Each faculty has an executive committee of five to seven persons who are elected by it.

The President of the Senate is called *Rector* and combines in himself all the powers of the Chancellor, Pro-Chancellor, Vice-Chancellor and Pro-Vice-Chancellor of our Universities. He is elected by the Senate from amongst the Professors of the University and holds office for a year only though eligible for re-election, he is not in practice re-elected¹⁰. The retiring *Rector* is called *Pro-Rector* which is an honorary designation. The *Pro-Rector* has only one function to perform—he officiates for the *Rector* during his absence from the University.

The President of the Faculty is called *Dean* or *Dozent* of the Faculty. He is elected by the Faculty, holds office for one year and is not eligible for re-election. The *Rector* and the *Deans* get small allowances in addition to their salaries as professors in the University.

The German Universities have also an important officer called *Kurator*. He is a Government Civil Service Officer and resides permanently in the University. He has no hand in the administration of the institution but watches its work on behalf of the Government and is the sole medium of communication between the Univer-

¹⁰ The re-election of the same officer came at intervals of three times in a century.

sity and the Minister, who usually acts according to his advice. He does not interfere in the work of the University but his presence has a very salutary effect

Teaching Staff—The teaching staff of the University is divided into two classes—Professors and Private Teachers (called *Privat Dozenten*). The Professors are appointed by the Minister on the nomination of the Faculties concerned. The Faculty sends three or four names to the Minister, out of which he selects one. The Minister is not bound to select from amongst the nominated persons, but he rarely goes against the wishes of the Faculty, which in turn makes its recommendations after careful consideration. The Faculty usually appoints a committee of experts to consider the merits of all possible candidates in the country. The post of a Professor is not advertised in Germany and no person ever applies for it. It would be considered beneath the dignity of a Professor to send applications. In the phraseology of the German language, Professorships are offered to individuals for acceptance. The *Privat Dozenten* are selected by the Faculty on the recommendation of the department concerned. They do not receive any salaries,⁴¹ but get fees from students who attend their lectures. The number of these private teachers is not fixed. They are expected to deliver a public lecture before they are enlisted as teachers. A private teacher may be raised to the status of a Professor, but in case there is no vacancy and the subject is such that no professor in the ordinary cadre is a specialist in it, he may be appointed as an "Extraordinary Professor" with a salary not so high as that of an ordinary Professor. Every Professor usually selects one of his students as an assistant. He works out the lectures delivered by his Professor, and in science subjects does the work of a demonstrator as well. The Professors get a salary from £500 to £800 a year in addition to the lecture fees from students, which vary from £50 to £200 a year. In the German Universities students pay a fixed amount for each course of lectures,

⁴¹ Recently it was found that the fees they receive from students is not enough for their maintenance and they now get small salaries (about £100 a year) for their maintenance.

this fee is not credited to the account of the University, but is paid to the teacher concerned. This fee is one shilling and six pence a month for a course of four hours' lectures every week. Science students provide their own apparatus and chemicals. Though appointed for life a professor officially retires at the age of sixty five, when he ceases to be a member of the Faculty and takes no part in its administration and though his place is taken up by another Professor he retains the title of Professor and receives his full pay till his death. He may deliver lectures if he so desires but is under no official obligation to do any work. In fact after their retirement most Professors continue their research work and take seminar classes, and often deliver courses of public and private lectures. Professorship in Germany is like a University degree a Professor who takes up another profession does not lose the title of a Professor. For example, the present Minister of Education, Herr Becker, who was Professor of Arabic is now styled Herr Kultus Minister Professor Doctor Becker.⁴²

Admission—Every student who has passed the *Abiturienten* or final examination of a Secondary School is entitled to join the University. The conditions for the admission of foreign students are very simple. A foreigner who would be entitled to join a University of his own country is also eligible for admission into a German University. The number of admissions is not restricted. The German Universities unlike the Universities of England have an almost unlimited scope for expansion, and no restriction of numbers is necessary. In fact, every effort is made to increase the number of students which means greater income for the Professors. The German Universities in their general organisation, mode of instruction and examinations resemble the Medieval Universities of the East. The question of number does not arise admission is only a question of recording certain facts and is left to an assistant clerk. The students at the time

⁴² The present Minister of Education was offered a Professorship at Aligarh College in 1906 while he was a *Privat Dozent* in Heidelberg. He had accepted the offer but declined afterwards as he was promoted to the rank of Extraordinary Professor in his own University.

of admission are required to fill in an application form in which the following items are of special interest. These columns were added after the War.—

Column No 14 What profession do you wish to follow after finishing your studies?

- (a) Underline the profession you wish to follow
(Here is a list of sixty different professions)

(b) Position in profession —

Independent, officer or clerk in private service or in public service (of kingdom, state, district or municipal board, communal or religious societies)

Column No 15 Have you done any practical work during your School and University career and for how long? What was the nature of this practical work?

Column No 16 Are you holding now any permanent or temporary appointment? If so, what is its nature?

Column No 17 Did you take up any service last term if so what service? How far will this service pay the cost of your education?

The ceremony of admission is very simple. The student visits the office clerk, shows his *Abiturienten* certificate and pays his fee. It takes only a few minutes. Foreigners are required to see the Dean, who examines the certificates awarded by foreign Universities, and satisfies himself that the candidate is entitled to join a University of his own country.

Teaching Organisation —Students are not classified according to the year of their studies as in the Indian Universities: no examinations are held during the instruction period except the final degree examination. There is no tutorial system. A list of lectures is published and the student may select any course of lectures he desires. No officer is officially appointed to help the students in the selection of lectures. Every student has a lecture-book in which the University office enters the courses of lectures a student has selected and paid for. This book must be signed by the Professor at the beginning and at the end of the term. It is not necessary for a student to attend the lectures in order to get his lecture-book signed; he can get his degree without attending a single lecture.⁴³

⁴³ Some years ago a Professor refused to sign the book on the ground that the student did not attend the lectures. The case went to the Court, and it was decided that the attendance of lectures was not necessary for signature. The student may select the course, but may afterwards find it unsuitable for his purpose and change it for another.

Lectures in Germany begin 15 minutes later than the notified time this quarter of an hour is called *akademische Viertel*. It affects the daily life of students so much that every notice distinctly mentions whether the notified time is with or without the academic quarter.

The most important portion of instruction is carried on in (a) the *Colloquium* (b) the *Seminar* and (c) the *Gesellschaft*. The *Colloquium* is private tuition of an advanced nature several students meet the Professor to discuss a particular topic which is fixed beforehand. They are not public and no fee is paid for attendance. Any student may join this class with the permission of the Professor concerned. Every teacher holds such classes at least once a week. The *Seminar* classes are of a public nature. One or more students are appointed beforehand to read papers or deliver lectures on fixed topics. These lectures are followed by a discussion under the supervision of the Professors. It often happens that two or more Professors join together in the same seminar. Seminar lectures usually begin with a discussion of the history of the subject and the existing literature on it. The seminar work of the whole term is restricted to the branch of the subject announced previously.

Every subject of study has a *Gesellschaft* or society for the promotion of the study of that subject and usually meets once a week. All teachers of the subject attend these meetings regularly to which senior students are also invited. The first half hour is usually devoted to the discussion of the literature published during the last week. In the case of a new book or an important article a teacher or a senior student is requested to study the subject and review it at the next meeting. The members are thus kept in touch with the most recent researches in the subject in Germany and abroad. The remaining half is spent in the reading and discussion of papers which are of a more advanced nature than those discussed in the seminars. The members often meet together in a restaurant after the meeting.

Time Table—The time table of lectures is not drawn up by any officer or committee of the department.

Every teacher specifies the subject on which he proposes to lecture during the coming term. The time of the lectures is usually fixed by one of the teachers appointed by the senior Professor of the department. He simply sees that lecture hours do not clash.

Residence —The Universities do not control the residence of the students. There are no hostels and the students are at liberty to live where they like and to do what they please. There is no supervision of any kind to restrict the freedom of students. The University has a lodging-house officer called *Pedal*, who keeps the addresses of families willing to let out rooms to students. It is a convenient arrangement, specially for foreigners. Such an arrangement, unfortunately, does not exist in London and other non-residential British Universities, where students often find it difficult to get suitable accommodation. Students may take a combined bed-sitting room or two separate rooms for bed and study. German students usually have their mid-day meals in a restaurant⁴⁴ and get cold meat and other edibles from home for supper. For foreigners not acquainted with the German language, it is more convenient to rent rooms with full board.

In respect of residence, attendance at lectures, and movements generally, the students in Germany have much greater freedom than students in other countries. No official restriction is imposed by the University. Till very recently, even a student, who broke the laws of the country, was tried not by a Civil Magistrate but by the Magistrate of the University while the Police merely handed over the student to the University authorities on the production of his student-card of identity. This privilege has now been withdrawn, but information is always sent to the University by the Police, whenever a student is arrested by them for a criminal or civil offence. The

⁴⁴ Students' co-operative societies have opened their own restaurants where they provide meals at moderate cost. See Sec. 13.

University authorities may take such action for his defence as they deem fit.

Student Life—The Students' Union, which is the first essential of undergraduate life in England, does not exist in any German University. Every University has, however, a Reading Room to which a Library is attached. The administration of the Reading Room is in the hands of a committee consisting of an almost equal number of students and Professors elected by the members. These Reading Rooms have become very popular since the War. There are no debating societies and the manner of conducting a debate is not understood.⁴¹

The Students' societies are, however, organized on somewhat different lines. There are two chief categories of these societies—societies for purely social purposes and societies that combine social life with scientific and literary work. Societies of the second category are founded according to subjects, e.g. Mathematics, Philosophy, History, etc. They all have a president, a secretary, a decoration secretary, and a treasurer, elected from the student members. All these officers are elected for one term.⁴² The younger students, who are in the first two years, sit for senior students. They are called *Fuchs*. Meetings are held once a week and a paper is always read by one of the students. On ceremonial occasions Professors also are invited and sometimes read papers. After a scientific discussion of the paper, the social part of the programme begins and goes on till three or four in the morning. The students sing songs and deliver humorous speeches but the greater part of their time is spent in drinking beer. There are many legends about a German student's capacity for drinking beer. I have myself seen a student drink 40 big tumblers in half

41. One of the professors as an experiment started a debating society which included professors also. The attempt was given up as a failure because they could not by logical reasonings unanimously come to one decision on a highly debatable current political question.

42. There are only two terms in a German University: (a) from 1st November till Easter (b) from 1st May till middle of August.

an hour,⁴⁷ after which he continued drinking for four hours more at the usual speed of eight tumblers an hour.⁴⁸ These societies publish a terminal report which also gives a summary of the University lectures delivered by the Professors of their department. A copy of this report is sent to all old members. These old members, called *Alte Herr* (old gentlemen), are invited to all important functions of the society. In some societies, the *Alte Herr* have a uniform of their own. Besides weekly meetings, members have also informal beer-drinking gatherings and often take their meals together in the same restaurant. Sundays are devoted to excursions. In an excursion at which I was present, the students walked 50 miles in one day, starting at six in the morning and returning at 10 in the night.

I have explained elsewhere that the students of Germany are a migratory population and keep moving from one University to another. It would be difficult to find a student who has studied at one University only and rarely does one come across a student who has only been to two Universities. Most of the students study at three or four Universities one after another. Corresponding societies exist in all Universities, a student who is a member of a historical society at one University, *ipso facto* becomes a member of the corresponding society at his new University. He may become either an active member of the new society by paying a terminal fee or an honorary member⁴⁹ without paying anything.

⁴⁷ In the meetings of the societies, called *Kneipe*, introduction is not made by shaking hands, but by drinking the health of each other. The two persons fill up their tumblers with beer and they say 'one, two, three' sometimes the third person who is supposed to introduce them says 'one, two, three, *Prosit*' (good health). They empty the tumblers in one breath to show warmth of heart. They jingle the glasses on the table saying 'one, two, three, *Prosit*'. The person who finishes the glass first is supposed to have won. In one *Kneipe* forty members were sitting when a stranger came in. He introduced himself to every one of the forty members and took a tumbler full of beer in introducing himself to each. These tumblers were brought to him in quick succession. He then sat down and went on drinking at the usual rate with other students.

⁴⁸ On account of poverty, students cannot afford to drink as much now as they used to do before the War.

⁴⁹ *Verkehr Mitglied*.

Members of the same society call themselves brothers (*Levin Bruder*) and address each other in familiar language.

Cricket, football and hockey clubs which are very familiar to an Indian student do not exist in Germany though increasing attention is being paid to sports since the War they do not fit in with the traditional life of a German student. Tennis and gymnastics however have always been popular. This deficiency in games is made up by the so-called social societies. These societies were first established as provincial organisations. Students coming from one province say Bavaria formed a Bavarian Society. They were somewhat like the societies formed in Cambridge and Oxford by students coming from a particular school. In 1848 when the idea of the German Empire was developed these societies changed their object and concentrated their attention on the development of loyalty to the Empire. Later on the idea of sports came in and they developed into the system of duelling.

At present these societies are partly social and partly sporting. They hold *Kneipe* where they drink beer sing songs, deliver humorous speeches and arrange excursions. They have special houses of their own where they have their meals together. But the most important object of these societies is duelling. This duelling is very similar to boxing but with this difference that sharp swords are used instead of fists. A doctor for dressing the wounds is always in attendance. These duels, like tennis and boxing are fixed as friendly matches. The Presidents of seven or eight different societies meet together once a week and arrange duels between their members. A student on first joining the society remains a *Fuchs* and is not promoted to the rank of full membership (*Bursch*) till he has come out successful in one of the duels. Most duels are fixed by the Presidents sometimes two students, who have serious differences to settle may do so by a duel. Duelling is an expensive sport and only students who are well off can afford to become members of these corps or societies. All members have scars on their faces this has become so

common that a scar on the face is considered an essential attribute of manly beauty. Scientific excursions form an important feature of a student's life in Germany. These excursions are arranged by Professors, who take their students to important industrial towns and show them the details of the process of different industries.

SECTION 12

Accommodation of Students in Larger Cities

The problem of providing students with suitable accommodation at a moderate cost exists in every large city. Some hostels have recently been built at University Centres in England, but the accommodation they provide is hopelessly insufficient. Houses for students are being built in Germany but they are more like University Unions than hostels. The high cost of living, the insanitary condition of students' lodgings, and the absence of healthy recreations and of corporate life are keenly felt in every large University Town. The problem is more acute in Calcutta than elsewhere, and in spite of large expenditure, a suitable solution has not yet been found. People in India are not accustomed to letting out rooms in their houses as is done in European countries. These rooms are let out including the services of all the house-servants. A successful attempt has recently been made by the Czechs in Prague. On account of the linguistic and social difficulties, Czechs and Germans cannot live together in the same hostel, so they have recently built two hostels, one for the German students and the other for the Czechs. All students reading in any institution above the high-school grade can live in such hostels. I will describe the arrangement in one of these two hostels in greater detail on account of its importance to Indian conditions.

The hostel was established, and is administered, by a private committee consisting of eight persons, one of whom is nominated by the President of the Czecho-Slovakian Republic, one by each of the five Ministers and one by the Municipality of Prague, while the eighth is elected by the students. It is a semi-official committee

and receives a maintenance grant of £2 000 a year from the Government. The site was granted free by the Municipality. The Government contributed about two-thirds of the cost of building while one-third was collected by the committee. There is accommodation for 800 students. The charges are very moderate being about £2 to £5 a month for board and lodging⁵⁰. The amount of fee varies with the pecuniary position of the parents: about 50 per cent of the students are taken on reduced fees, and about 20 per cent pay only £2 a month. The rooms are all of the same style and no distinction is made in the food. The hostel is five miles from the University, but there is a tram service and students get season tickets at reduced prices. Two students are accommodated in each room but single seated rooms are given to those who have to prepare for special examinations. Furniture and beds are supplied by the hostels; the students have only to bring their books and clothes. The superintendent of the hostel is a whole time officer who has been a Professor in the University. The hostel has a reading room, a large dining hall, study rooms and a large central hall accommodating about 1 500 persons which is used for dramatic performances. It is the best of its kind which I have seen in a large European City.

SECTION 13

German Students Co-operative Association

A large number of German students had suspended their studies during the War and joined active military service. When the War came to an end, they found that they had no means for the continuation of their studies⁵¹. Unlike the English Government the German Govern-

50 The Superintendent promised me that he would admit Indian students on reduced fees which will be £3 to £5 a month.

51 In England this problem was solved by the joint efforts of the Government and the Universities. The Government gave special scholarships to the students who returned from the War and the Universities admitted them irrespective of numbers gave them liberal assistance and modified their course and examinations in such a manner that the students might obtain their degrees in the minimum time.

ment was too poor to give them any help, the Universities, with no endowments of their own and depending entirely on the Government, were also not in a position to assist them. Left to their own devices, the students who had returned from the War, met together in February 1921 and organised themselves into an Association with the object of helping themselves. A central office was established at Dresden with branches at all University centres. The small society founded in 1921 has now developed into a powerful organisation and has given a great impulse to higher education in Germany.

It is planning to build students' houses at all University centres. Five such houses⁵² have been already built and buildings have been rented at other places. These houses were built by private collections aided by a Government grant which was 70 per cent of the total collection. They are more like University Unions than hostels. They have large restaurants, where students⁵³ can have meals at a cheap rate, which is about 60 per cent of the market price⁵⁴. A large number of students, on account of their poverty, are given meal tickets at half rates and about 15 per cent are given free tickets. The Association pays for these free tickets to the students' houses, so that the restaurants are self-supporting. The Association has also opened co-operative shops where things are sold at three-fourths of the market prices and in the case of expensive articles, such as clothes and shoes, they have arranged with business firms for their supply to students at a special discount. They keep a stock of text-books, presented by old students, which are lent free to poor students. A large number of students type their lecture-notes, the Association allows them to do the type-writing free of charge and even to take the machines to their rooms. It has made special arrangements for sending out at its own expense sick students to nursing homes in Germany and abroad. It provides work for poor

⁵² Dresden, Aachen, Bonn, Mannheim and Danzig.

⁵³ The number of students who board in the students' houses is about one-third of the total number.

⁵⁴ The saving effected by the students in having meals at students' houses at cheap rate is £88,000 a year. This sum may be taken as the students' contribution to bursaries.

students during the vacation so that they may earn money to meet the expenses of the next term. It also sends out students to foreign countries during vacations according to the students-exchange system, and also gives scholarships for study in foreign countries. In addition to regular loans and bursaries the Association also gives casual small loans to poor students. I was told that 40 per cent. of such casual loans is not realised. To make up for this loss every student in the University is required to pay 8d. per term. The Association has undertaken the work of a service securing agency and also supplies information about foreign Universities. The Government has now instituted special bursaries⁵⁵ which are awarded by the *Kurator* in consultation with this Association.

All these facilities including the bursaries given by the Government through the Universities, are open to foreign students. The Association has organised a special department for this purpose. Last year it gave a hundred special scholarships to Chinese students and distributed them amongst the different Universities⁵⁶. With these facilities a foreign student with limited means can live on £10 a month and even this amount he can borrow from the Central Office at Dresden. Students always travel in third class at half fare, and foreign students who have paid the full Railway fare on their first arrival get half the fare refunded on their Matriculation provided a certificate was obtained at the Railway Station. The Association has also undertaken to introduce foreign students to factories for practical work (a unique opportunity for outsiders) recommends them to good German families and makes special arrangements for their vacations.

Organisation of Central Office —I have described in a general manner the work which the Students Co-

⁵⁵ The amount of the bursary is 2s. 6d. per annum per student in the University. A University with 4,000 students gets a grant of £500 a year.

⁵⁶ I had a talk with the officials at Dresden and other University centres and I understood that the Students Association will be very willing to give scholarships, in the shape of loans, to Indian students if some responsible person or society undertakes to collect the money when the students have entered life.

operative Association is doing for the student community in German Universities. I shall now give an account of its organisation. The Central Office of the Association is in Dresden⁵⁷ The Association has three classes of members (1) Every student matriculated at any German University becomes a member of the Association (2) Non-students may also become members by paying eight shillings a year (3) Firms may also enlist themselves as members, but the fee for their membership is higher (£5 a year) The executive work is entrusted to a committee, called the Executive Committee, consisting of twelve persons elected by the members Four members of the Executive Committee are elected from amongst the Professors, four from amongst the students and four from amongst the non-student members of the Association

The work is divided into several branches —

- (1) Loan branch
- (2) Individual assistance to students
- (3) Stipends, local and central
- (4) Interchange of students and foreign students
- (5) General organisation
- (6) Propaganda

The object of the first branch is to give loans to poor students⁵⁸ The Association gets £800,000 a year from the Government, two-thirds of which is paid by the Central Government and one-third by the Provincial Governments The grant has been fixed for ten years, at the end of which the Association is expected to have a capital of eight million pounds The money paid back by the students should be sufficient for future loans The money is lent at 3 per cent interest, the bank rate in Germany being 8 per cent Two precautions are taken against losses (a) Every student who desires to get a loan has to give the security of some reliable person, who is responsible for its repayment (b) Every student⁵⁹ reading in any one of the 49 Universities pays 15*d* per

⁵⁷ The address is 2, Katzer Strasse, Dresden

⁵⁸ The work is carried on like Herman's Foundation in America

⁵⁹ The total number of students is 113,657, of whom 8,824 are foreigners See Sec 11

tern to meet the bad debts that occur owing to the death or want of employment of the borrowers. It is proposed to raise the contribution of foreign students to 1s 6d a term as losses are likely to be greater in loans given to foreign students.

The second branch for individual assistance to students has several sections, the most important of which is the one which arranges sanatorium treatment for sick students. About 200 students are sent every year to the best sanatorium in and outside Germany and the Association pays the entire cost. The foreign branch of this organisation is doing very useful work. It represents German students in all Inter University Congresses and arranges for the lectures of foreign Professors⁶⁰ in Germany. It sends out a large number of students every year to American factories and arrange factory work for American students in Germany. It grants scholarships to German students for study in foreign countries⁶¹ and gives stipends to foreign students who wish to study in German Universities. It supplies information to foreign students and publishes every year a book in English giving general information about German Universities. The stipends to Indian students are given by this branch of the Association.

Organisation at University Centres—I have so far described the organisation and the work of the Central Office at Dresden. The Students Co-operative Association has also a branch at all University centres. Every branch has a managing committee consisting of the representatives of students, professors and non student members in equal proportion. The non student members are appointed either on account of their interest in the students or in consideration of their donations. Each branch has the following seven sections: arrangement of restaurants including the sale of meal tickets; lending of text books; loan of type writers; finding work for students

60 The Professors who desire to lecture at different University towns get free travelling. They receive hospitality and get a part of the gate money if any.

61 Mr. Krat of Munich University was just awarded a scholarship for study at Tagore's Birsa Bharati University of Bolpur in Bengal (India).

during vacations; sending sick students to sanatoria in Germany; short loans, co-operative stores, including the sale of coal. Each branch is in charge of a student, who works as a volunteer. A paid officer⁶² is appointed to run the office and assist the students in charge of various branches.

The Germans do not believe in working by committees. A committee is appointed to guide the policy, but the actual work is left to individuals.⁶³ The stipends given by the local branches are different from those awarded by the central (Dresden) organisation. They also advance small casual loans to students.

Students who want stipends have to fill up an application form, the contents of which are verified through the agency of the Police. Foreign students are eligible for the stipends and loans given by Government and the Association.

The income of the branch associations consists of—

- (a) Fees from students at the rate of 1s 6d a term
- (b) Contribution from the Central Organisation at Dresden
- (c) Private collections
- (d) Grant from the Government at the rate of 2½d per student in the University

Detailed information about the income and expenditure and the aims and objects of the Association may be obtained from the annual reports issued by the Central Organisation at Dresden and by its branches at University centres.

SECTION 14

Youth's Movement in Germany (*Jugend Bewegung*)

General Baden-Powell, after his experience in the South African War, when young Boer boys of twelve

⁶² The salary of the officer is from £120 to £100 a year.

⁶³ Lord Palmerston once said that the most efficient committee is a committee of three persons, in which two persons absent themselves.

or thirteen took active part in fighting organised the Boy Scout Movement in England and wrote several books upon the subject. The movement has been gradually introduced into all countries forming part of the British Empire. Germany started a similar organisation, called *Pfadfinder*²⁴ on the exact lines of the Boer organisation. General Baden Powell's movement is based on social service combined with military discipline. Baden Powell himself is the General of all the Scouts. It is organised by outside agencies through the help of teachers. The initiation therefore comes not from students, but from teachers and outsiders. The German movement lays greater stress on character building and national education. In Germany this movement was started by the boys themselves independently of teachers who first opposed it on the ground that their pupils would become less serious in class work. There is no central organisation in Germany though in German Czecho-Slovakia the organisation is centralised. In Germany boys of different schools form themselves into groups, and go out into the country and often sleep in the open at night. The object is not mere exercise but to be in touch with every phase of life in the country. In country places the boys live in a very simple style like peasants.

The Boy Scout is only a part of the Youth's Movement which goes deeper. It depends as in America on the intense desire of the students to know the world in its true perspective and to establish sympathetic relationship with the student-community all over the world. The movement is also in a way a revolt against the home and the school authority. After the War parents were compelled to work for longer hours in order to earn their living and could not as before, give the same attention to the training of their children. The youths got tired of the strict discipline of the school which had unconsciously become more military than academic. The movement aims at emancipation from the rigid discipline of school and home life. Interest in games and sports is another feature of the movement. Students now take

61 The present German name is *Wandern Vogel*.

more interest in games which are organised not by the schools but by the students themselves. Municipalities are spending large sums of money in providing playgrounds for the boys. The Berlin Corporation alone spent £600,000 last year for this purpose.

The leaders of education are trying to direct the movement towards the development of national character. The movement at present exists more in books than in reality. I have talked with boys, teachers, and parents in towns and country places, but had great difficulty in finding out what the movement actually was, though I was introduced to a voluminous literature on the subject.

SECTION 15

Technical and Industrial Education

In every factory and large workshop, three types of persons are required. (a) Persons who control the whole factory. They design the machinery, and concentrate their attention not so much on running the existing machinery as on its possibilities for further development. They understand machinery more on paper than in the workshop. They may be called the 'Engineers'. (b) Persons who are in charge of the different parts of the factory. They must thoroughly understand how to run the machinery and also the work of adjustments and repair. They are the Overseers or 'Foremen'. (c) Persons who actually work at one small part of the machine and whose duty is more mechanical than intellectual. They are the 'Workmen'.

The nature of the work done by each of these three classes of persons is different, and consequently they require different kinds of training. An example from building construction will illustrate the meaning. The business of the engineer is to design buildings and labour-saving machines. He knows how to build an arch and can calculate the pressure at different points. But it requires a mason (whom I have called a foreman) to put the bricks in their proper places. A good engineer may be a bad mason. The mason may go on building again and again an arch he has constructed before, but he will not be able

to design a new arch. There must also be a number of workmen under the control of the mason. If these workmen are educated their efficiency will be increased and they will be able to find for themselves method by which labour can be saved. On account of the increased use of machinery in every phase of life it has now become necessary that workmen should be skilled labourers. Hence the need of technical education for them also.

For a small concern such as a cottage industry we require persons of the second and third classes only. The master workman must be of the foreman type and his assistants should have received some technical education. In Germany there has recently been a large development of cottage industry which works hand in hand with agriculture. Agricultural operations in Europe are carried on for seven months in the year and very little work can be done during the five winter months. The farmers, who are idle during winter, have taken up cottage industry, specially the making of toys. Germany at present produces a large number of children's toys which are mostly the work of farmers. They do not use machines run by power but only portable machines run by hand and by small motors.

The training of the foreman and of the master of a trade is of similar though not of an identical nature. Provision is made in Germany for the education and general training of each of these classes and institutions of three different grades have been established for their instruction. Schools for training workmen are called *Gewerbe Schule* (Elementary Technical School). Institutions for training foremen and masters of trade are called *Lehr Schule* (Trade Schools). Institutions at which engineers are trained are called *Hoch Schule* (Technical Universities). I now proceed to describe the institutions of each type.

Elementary Technical Institutions (Gewerbe Schule and Beruf Schule)—A very boy and girl after leaving the Board School enters some factory, business or profession as a workman or assistant at the age of fourteen. He first joins as an apprentice for three years, during

this period he receives no pay and has also to attend a school called the *Gewerbe Schule*. Attendance at this school is compulsory by law. After passing the final examination, he is appointed a paid workman or assistant. The cleaner-boy in a shop, the labourer in a cottage-industry, the errand-boy in a hotel and the boy-assistant in a barber's or carpenter's shop have all to serve as apprentices for three years and at the same time study their special trade in a *Gewerbe Schule*. The boys are not required to pay any fee, but their masters have to make a small contribution. These schools are maintained by municipalities, which receive special grants from the Government for their maintenance. In some places the Government maintains its own schools.

The classes are divided according to trade, and boys pursuing a particular trade are taught together. The curriculum is prepared according to the requirements of each trade, and the teaching is both theoretical and practical. Besides the specialised study of the profession, the courses of instruction include the German language, arithmetic and drawing, elements of political science, book-keeping and gymnastics. Excursions and games are compulsory in these schools as everywhere else. The teacher of the trade-subject is generally a master workman of the profession. Thus, master carpenters, master barbers and master bakers are appointed teachers for professional subjects. The detailed syllabus of drawing, arithmetic and geometry is different for different trades, and special text books suitable for each profession have been prepared. The problems in the arithmetic and geometry of a carpenter class deal with wood-work, and in their drawing lessons, the boys are required to draw the parts of furniture. Mathematics and drawing suited to persons following a particular trade will be useless to persons pursuing other trades. The minimum period of instruction fixed by law is eight hours a week, but in practice the instruction covers ten to twelve hours (not periods) a week. The number of these schools before the War was 3,600, having 540,000 students. After the War it has increased by 50 per cent.

In big industrial centres, where the number of boys following a particular profession is large the classes of that profession are separated from the *Gewerbe Schule* and organised by themselves as a separate school called the *Beruf Schule*, which is really a single trade *Gewerbe Schule*. The difference between *Gewerbe Schule* and *Beruf Schule* is that the former prepares the boys and girls for all professions while the latter prepares candidates for some particular profession only. In some places professional classes are attached to Primary Schools and are called *Fach Classen*. Some of these schools in big towns have hostels called *Jugendheim* attached to them. In these hostels boys make their own arrangements for food.

Courses of instruction suitable for each profession have now been drawn up by the Government and the apprentices (called *Lehrlinge*) are divided into three classes according to the period of their schooling. The final examination is conducted by the teachers under the general guidance of professional specialists. In the school which I visited there were separate classes for twenty five different professions. In Germany as has been explained before boys and girls receive compulsory education of a general nature up to the age of fourteen and this is followed by compulsory professional or technical education for a further period of three years. Children who have selected a profession for which no specialised education has been provided or who do not join as apprentices are required to attend a new type of schools called *Fortbildung Schule*. These schools take up the residue of the *Gewerbe Schule* and *Beruf Schule*. Their courses are similar to those of Central Schools in England. In fact the idea of these Central Schools of England was taken from the *Fortbildung Schule* of South Germany. These schools give general education with a practical bias but not specialised education for a particular profession.

Secondary Education (Fach Schule or Trade Schools) —The most important part of technical education is the training of foremen who actually run the machinery and of the master tradesmen of cottage in-

distries, such as master tailors, master watch-makers and master painters. On account of the advanced nature of the study, the teaching of several professional subjects is not combined together in one school as in the *Gewerbe Schule*, separate schools have been established for the teaching of different professional subjects. In the *Gewerbe Schule* the boys spend more time in their own business and attend school for about an hour and a half every day. In the *Fach Schule* (Trade Schools) students spend more time in school and less in business. The conditions of admission to these schools are also more stringent.

The boys and girls, who join the Trade Schools, have usually either studied for six years in a High School (*Ober-reale Schule* or *Gymnasium*) or have gone through the whole course of a Middle School for a period of six years or have done brilliantly in a Board School. The Trade School course covers three years and instruction is imparted for thirty to forty hours a week. In the first year, education is more theoretical than practical, in the second year equal attention is paid to both theory and practice and in the last year instruction is more practical than theoretical. During this period, every student is required to prepare one complete article from raw materials. In the watch-maker's school, for example, every boy has to make the toothed-wheel springs and every little screw required, and fit the parts up into a complete watch.

At the end of three years, the students are examined by a Commission appointed by the Ministry of Trade and Industry and the articles made by them in a complete form are also shown to the examiners in the same way as laboratory note-books in the practical science examination. The students in Trade Schools are called *Lehrlinge*, those who have passed the examination are called *Geselle*. The examination is called *Geselle Prüfung*. The *Geselle* can join factories or small shops as paid apprentices or as assistants. They work in the capacity of apprentices or assistants for a further period of three years, during which time they receive small salaries, school attendance during this period is optional, but they are required to pass an

examination which entitles them to be called masters in their trade. No person is entitled to open an independent shop unless he has passed the master's examination in that trade.

These schools are the backbone of German industries. It is outside the scope of this book to give the detailed syllabus of each professional school, but I will describe the syllabus of the watch maker's school as a model. The school is situated in Glaashute near Dresden and has a three years' course.

Theoretical Lessons (10 to 20 hours a week)

- 1 Arithmetic and Algebra including the use of the slide rule calculation from tables graphs and logarithms—2 hours a week
- 2 Geometry of two and three dimensions including the elements of Trigonometry
- 3 Physics
- 4 Electrotechnics
- 5 Exercises in Electricity
- 6 Electric Signals
- 7 German
- 8 Hygiene
- 9 Book keeping
- 10 Elements of Political Science
- 11 Gymnastics
- 12 French and English (optional)

Practical Work (30 to 40 hours a week)

- 1 Boring twisting, use of tools and machines
- 2 Use of micrometers and the study of big clocks
- 3 The mechanism and construction of difficult parts of a watch position of stones case work and pocket watches the working of cylinders etc
- 4 The system of toothed wheels and springs electrical work
- 5 Use of pendulum in big clocks pendulum adjustments ladies watches
- 6 Repairs
- 7 The complete construction of a watch

Higher Technical Education (Hoch Schule or Engineering Colleges) — Higher technical and professional education is given in special institutions, which have the rank of Universities and the power to award the Doctor's degree. These institutions are called *Hoch Schule*. In Germany there are ten *Hoch Schule*⁶⁵ for the engineering profession, four for the study of agriculture⁶⁶ and five for forestry.⁶⁷ The conditions of admission are the same as in other Universities. Candidates for admission must have passed the *Abiturienten* or the final examination of High Schools and, in case of foreign students, such examination as entitles them to join a University of their own country. There is no restriction about the number of admissions in these colleges and no student is refused admission for want of accommodation. Students work in batches, if the laboratory accommodation does not permit all the students to work simultaneously.

These Universities have two examinations — a Diploma Examination and a Doctorate Examination. The Diploma Examination is equivalent to the B. Sc. degree in Engineering in the British Universities. Candidates for Diploma Examinations must have (1) studied for four years in a University, (2) done practical work for a period of one year, and (3) passed the two parts of the examination. The first part of the examination is held two years after admission. The subjects for this examination are Mathematics, Mechanics, Descriptive Geometry, Machine-technic, Physics and Chemistry, Electro-technic, Theory of Heat, Political Science, Factory Organisation, and Electro-mechanics.

No student is allowed to sit for the second part unless he has passed the first part of the examination two years before and has done a year's practical work in a factory. The conditions are precisely the same as for the B. Sc. degree in Engineering in England or Scotland. A student who has passed the Diploma Examination can be a candidate for the Doctor's degree in Engineering.

65 Aachen, Berlin, Braunschweig, Breslau, Darmstadt, Dresden, Hannover, Karlsruhe, München, Stuttgart

66 Berlin, Bonn Poppelsdorf, Hohenheim, Weihen Stephan

67 Elberswalde, Hann Munden, Tharandt, Clausthal and Freiburg

after a further study of two years. The mode of examination is the same as in other science and arts subjects.⁶⁸ No person is appointed Professor in a *Hoch Schule* unless he has served for at least seven years in a factory or industrial firm. The Professors are on intimate terms with the industries relating to their subjects and consequently students find no difficulty in having access to factories for practical work. *Hoch Schule*, like Universities, have several faculties. The following faculties are most common: Electric (High and Low Currents), Mechanical Architecture, Chemistry, Natural Sciences (Practical Physics, Practical Chemistry and Applied Mechanics) and in some cases humanistic sciences for the training of teachers.

SECTION 16

Commercial Education

The first Commercial School in Germany was established at Hamburg in the year 1771 and twenty years later was followed by another in Berlin under the direction of the Berlin Chamber of Commerce. During the War and afterwards commercial schools like ordinary schools were systematically graded into primary, secondary, and higher, and were made available for persons engaged in different departments of business and possessing school education of various grades.

Commercial schools may be divided roughly into three classes organised in the same manner and with the same conditions of admission as technical and professional institutions —

- (1) Elementary Commercial Schools
- (2) Secondary Commercial Schools
- (3) Commercial Colleges or Universities

(1) *Elementary Commercial Schools* — These are called *Kaufmannschen Beruf Schulen* (Shopkeeper's Schools). In small towns, where the number of students is not large enough to justify the establishment of an independent commercial school, teaching is carried on in

the general professional schools and these classes are called *Kaufmannshchen Fach Classen*. The courses of instruction are the same in both. They take in boys and girls who have gone through the course of compulsory education and have been engaged by business firms as apprentice shop-boys and shop-girls. The courses extend over a period of three years, during which apprentices receive no salary. After passing the examination, they are eligible for regular appointments as paid clerks. In Prussia alone there are 607 such schools, of which 356 are independent and 281 are attached to professional schools. The number of students in these schools is 130,225, of whom 55,591 are girls. The courses of instruction include German language, book-keeping, typewriting, shorthand, and elements of commercial law and commercial geography. Gymnastics, games and excursions are as compulsory in these schools as in all other institutions.

(2) *Secondary Commercial Schools* — These are divided into two groups. *Handel Schule* (Commercial Schools) and *Hoher Handel Schule* (Advanced Commercial Schools). The former are open to boys who have gone through the course of a middle school, covering a period of six years. The latter are open to boys who have studied for six years in a *Gymnasium*, or to girls who have successfully gone through the courses in *Lyzeum* but have not passed the *Abiturienten* Examination for which a further study of three years is necessary. In the year 1924, there were 84 Commercial Schools with 18,275 pupils and 73 Advanced Commercial Schools with 5,007 pupils. Provision also exists for the training of teachers for primary and secondary commercial schools.

The following table will give the subjects and hours of study in the various classes. The fourth is the lowest class. The general plan of education is the same as in secondary technical schools. —

	4th Class	3rd Class	2nd Class	1st Class
Religion	2	3	2	1
German	5	5	4	4
French (with Drafting)	6	5	4	4
English (with Drafting)	6	5	4	4
Mathematics	2	3	3	3
Commercial Arithmetic	4	4	3	2
Physics	0	2	2	0

	4th Class	3rd Class	2nd Class	1st. Class
Chemistry	0	0	2	2
Biology	2	0	0	0
History	0	0	0	2
Commercial Geography	1	2	1	2
Commercial History	2	2	2	2
Commercial Law	0	0	4	4
Calligraphy (Optional)	2	2	2	2
Shorthand	0	2	1	0
Gymnastics	2	3	2	2
Drawing	1	0	0	0
Singing	1	0	0	0
Games	2	2	2	2
Spanish Italian or Russian	0	0	2	2
Total	32	40	41	38

(3) *Higher Commercial Education*—Students who have passed the *Abiturienten* or the final examination of the High School are entitled to join higher commercial colleges, which have the status of Universities and the power to award degrees. There are five Commercial University of Freiburg lectures on commercial subjects thousand are regular students reading for the University degree. Provision for the teaching of Commercial Sciences is also made in other Universities and a separate Faculty of Commercial Sciences exists in the two modern Universities of Frankfurt and Cologne while at the University of Freiburg lectures on commercial subjects are delivered as a branch of Political Science.

The Commercial Universities like *Hoch Schule* have two examinations a Diploma Examination and an Examination for the Doctor's Degree. The Diploma Examination corresponds to B.Sc. (Commerce) of the British Universities and the Doctor's Degree corresponds to Ph.D. in Commerce. The diploma course extends over a period of three years. A student after taking his diploma from any of the five Commercial Universities can take his Doctor's degree from any other University after a further study of two years and is then called Doctor of Economics and Commercial Sciences. It is an important feature of these Universities that highly successful businessmen and bankers are engaged to deliver

60 Leipzig (1898) Berlin (1906) Mannheim (1908) Königsberg (1915) Nürnberg (1919)

courses of lectures to students, and the teaching is not merely theoretical.⁷⁰

In addition to these systematic schools and colleges, evening classes are held in the *Volk-hoch Schule*,⁷¹ and also in every commercial school, for the benefit of those who have to work in the day-time in banks or shops and are yet anxious to improve their knowledge.

Conclusion — The education of businessmen consists of three parts: General education, Practical training in a business, and Commercial education, which sometimes precedes practical training. Even millionaires put their sons first in the lowest grades and familiarise them in quick succession with different kinds of work. The success of a person, who has received good commercial education, is very rapid.

SECTION 17

Education of Women

Girls were from the very beginning admitted to Elementary and Middle Schools in the same way as boys. The syllabus was the same for both, but it differed in manual work. Girls were taught domestic science, including needle-work, cookery and nursing. Instruction in High Schools however was substantially different. Girls were not admitted to *Gymnasium* and other High Schools intended for boys, they could not, consequently, join a University, but those intending to become teachers were allowed to attend lectures. The High Schools for girls had a six years' course and included, among other subjects, a modern European language. The classical languages were not taught, nor did success at the final examination of these schools entitle the candidates to join a

⁷⁰ An educationist, in his great enthusiasm for liberal education, once put forward this dilemma: All commercial education is useless because a successful businessman will not consent to teach the secret of his success, and the training given by an unsuccessful businessman is not worth having. Though commercial education does not necessarily make a person a successful businessman, yet it places him in a position of distinct advantage among competitors of equal intellectual capacities.

⁷¹ See Sec. 21.

University. But Private Boarding institutions⁷ were established which admitted girls after they had gone through the course of a High School or a Middle School for a period of three years. Through the girls received instruction in other subjects, the major portion of their time was devoted to domestic science, cookery and needle work. All the girls lived in hostels and were divided into small families. They cleaned the rooms, made the beds and cooked for the family in turn. They were required to make their own kitchen budget and order the things for them selves. Healthy rivalry existed between different families of the hostels on the economic management of the kitchen and the quality of the food prepared by them. They were also taught book keeping, first aid and child nursing.

It was at that time supposed that women would stay in their homes and look after their children and the syllabus of instruction was framed accordingly. But women who were dissatisfied with these restrictions continued to agitate. In 1905 special High Schools, under the name of *Lyzeum* providing instruction for six years were established and girls were also permitted to attend the last three classes of *Oberreal Schule* and sit for the *Abiturienten* examination. The arrangement was found unsatisfactory and during the War in 1917 *Ober Lyzeum* (Upper High Schools for Girls) were established.

Soon after the War in 1918 women were given the right to vote in the elections. Moreover, while men were engaged in active field service, civil administration was mostly left to women and they were not willing to vacate the positions they had obtained. They naturally demanded facilities in education equal to those given to men. A special conference was convened by the Minister of Education in 1921 to consider the question of giving higher education to women and all disabilities existing under the previous arrangement were removed. The

7. The *Louise Stifting Schule* in Berlin was one of the most famous of such institutions.

Minister has now on his staff a special lady-adviser for female education

At present, the girls attend the *Grund Schule* (Common Schools) for four years. At the age of 10 some girls, like boys, go to High Schools and others to Middle Schools, while the rest stay on in the Primary Schools. The attendance of girls in professional and industrial schools is compulsory in the same manner as the attendance of boys. There are two types of High Schools for girls: (1) the *Auf-bau Schule* (or new High Schools) established to meet the demand of working classes, and (2) the *Lyzeum* in which the courses of instruction extend over a period of six years, after finishing which the girls have three options—they may leave the school and join, for three years, (a) a boarding institution where they learn domestic science, or (b) the *Gymnasium* for boys, or (c) the *Ober-Lyzeum* which are either attached to the *Lyzeums* or organised as distinct institutions. The courses of instruction in the *Ober-Lyzeum* extend over a period of three years. The final examination is equivalent to the *Abiturienten* Examination and is conducted in the same manner. It entitles the girls to join any University or Technical College with the same rights as boys. The number of women students in the Universities is increasing very rapidly, it is about 10 per cent at present. They can pass the *Staat* examination⁷³ and get the Doctor's degree. They have societies of their own in the Universities but they do not take part in students' *Kneipe*.

SECTION 18

Training of Teachers

Before the War, teachers of the Primary Schools (called *Volk Schul Lehrer*) were trained in special boarding institutions known as *Seminars*, to which several practising schools were always attached. Before joining

⁷³ *Staat* examination is conducted by the Universities and its standard is equivalent to the B.A. examination. Those who pass it are eligible for certain posts under Government. It is not an academic degree and so is not usually taken by foreigners.

the *Seminars* the teachers received instruction in the Primary or the Middle Schools. The courses of instruction in these *Seminars* extended over a period of three years at the end of which there was a very searching examination. The candidates were then placed in schools and examined again after another three years. Instruction was given in the theory and practice of teaching. Though very good from a pedagogic point of view these institutions were deficient in scientific training. Even before the War, teachers of Primary Schools had raised their voice against these institutions on two grounds: (1) teachers trained in them had inferior social status because they had not studied in High Schools and Universities⁷⁴ and (2) they were not as free as University students for the restrictions of residential life were imposed upon them. In 1920 and 1921 the Government under the advice of Professor Sprenger, laid the foundation of pedagogic academies which like University Colleges have the status of a University. They are denominational institutions and train teachers for denominational State schools.

It has already been pointed out in Section 4 that most of the Primary Schools in Germany are denominational schools maintained by the State and teachers for these schools are trained in denominational training colleges which are also maintained by the State. There are only two important religious communities for which provision is thus made—Roman Catholics and Protestants. There are at present four such academies or training colleges—one for Roman Catholics two for Protestants while the fourth is undenominational⁷⁵. Students after attending a two years course of instruction in these academies are entitled to join a University. Instruction in these academies includes besides the ordinary subjects usually taught in training colleges, further instruction in ordinary school subjects which the teachers

74 Before the War German officers marrying daughters of Primary School teachers lost their rank in the army.

75 The Pedagogic Academy at Bonn is Roman Catholic the Academies at Elbing and Kiel are Protestant and the one at Frankfurt is undenominational.

will be required to teach ⁷⁶ These seminars correspond to the Normal Schools of India. No special practising schools are attached to these academies, but students are given practical lessons in the neighbouring schools.

The most important question on which opinion in Germany is sharply divided is whether these training colleges should be attached to the Universities or kept as independent institutions ⁷⁷ In the Turingen and Hamburg States, these academies are attached to the Universities, while in Saxony they are attached to the Technical Colleges (*Hoch Schule*), forming a new faculty, called the Faculty of Cultural Sciences. These academies are not boarding schools, but in Wurtemberg all teachers reside in hostels.

The training of teachers for High Schools is very different. They have to study for three years in a University and pass a special (*Staat*) examination in three subjects, one of which is called the chief, and the other two subsidiary subjects. They are also expected to write a dissertation. This examination is very similar to the B.A. examination of English Universities. Candidates after passing this examination are not brought together in training colleges, but are distributed among different High Schools, about six being allotted to every school.

76 Here is a list of the subjects taught in these academies: (1) Introduction to Philosophy, (2) Psychology with exercises, (3) Anatomy and Physiology, (4) Systematic Pedagogics with exercises, (5) Propædæutics of Religious Sciences, (6) Zoology and Botany with reference to local plants and animals, (7) Study of Social Sciences, (8) Drawing, (9) Music—theory and practice, (10) Modelling, (11) Manual Training, (12) Gymnastics and Drill, (13) History of Education, (14) Hygiene, (15) Further study of school subjects—Religion, Mathematics, Geography, (16) Position of Germany in foreign countries, (17) Anthropology, (18) Folklore and German Culture.

77 The practical difficulty in attaching them to Universities lies in the opposition of the Central Party in the German Parliament. They are Roman Catholics and desire that religious instruction should be imparted in separate denominational academies. The Universities in Germany are undenominational, and cannot affiliate denominational institutions. To my mind, the difficulty is not of a practical nature. In Cambridge and Oxford we have denominational institutions working under undenominational Universities. The second argument brought forward is the question of numbers. The inclusion of these academies in the Universities will increase the number by 20 per cent. But difficulty can be easily overcome by organising them as distinct institutions in University centres. In England these institutions, like other scientific institutions, form part of the Universities, but they are all organised in separate colleges.

Here they get their practical instruction under the supervision of the Head Master. At the end of two years they are examined by the Board of Inspector (*Provincial Schul-Kollegium*). Education is a subject for study in every University. Most of the teachers take Education as one of the two subsidiary subjects, while some of them select it as their principal subject in the *Staat* examination. Educational seminars have their own libraries and reading rooms and maintain their own experimental school. The seminar library I saw had fifty thousand volumes and contributed to over 200 periodicals.

SECTION III

German System of Examinations

In Germany the system of monthly terminal and annual examination does not exist and students are not examined year after year for promotion as in England and in India. The year is divided into three terms at the end of every term the teachers in every subject give their opinions about each student which are entered in a register. These opinions are expressed in some schools by A B C and in others by 1 2 3. The Oxford system of *plus* () and *minus* () signs for intermediary positions also exists in most schools. At the end of the year the Head Master in consultation with the teachers and on the basis of the records supplied by them promotes the students from their classes. The proportion of students who are kept back is very small and seldom exceeds 10 per cent. Advice and threats are administered sufficiently early to make both students and parents careful about their study and progress but the fate of the boys does not hang on the chance of passing certain examinations. In every school marks are also given for sports games obedience good behaviour and general diligence.

The final examination of the High School is called the *Maturitenden* examination and entitles the student to join a University or any higher technical institution of the University status. The students are

about nineteen years of age when they sit for the *Abiturienten* examination, its standard is equivalent to the *Baccalauréat* of France and slightly higher than the Intermediate Examination of an Indian University. The examination is held in each school by the teachers of the subject under the general supervision of an Inspector of the Division. The examination is both written and oral, and only one question is set in each paper. The student is expected to write an essay instead of answering a fixed number of questions as is done under the English Examination System. The teacher usually suggests three subjects for the essay out of which the Inspector of Schools selects one. Failures in the *Abiturienten* examination are very rare. As a rule, the Head Master holds a test three months before the examination and allows only those students to sit for the examination, of whose success he is certain. The number of students thus kept back seldom exceeds 15 per cent. Students who do not do well in the written examination are examined orally. The use of dictionaries is allowed in the language examinations. Students are not examined in all subjects, but only in the principal subjects, *i e*, Languages, in *Gymnasium*, and Languages, Mathematics and Science in the *Ober-real Schule*.

There is only one University examination, *viz*, that for the degree of Doctor. Class-system and class-promotions do not exist. To have a picture of the German System of examinations, we must entirely forget the present system of Indian examinations, which is itself a bad imitation of the English System. The method of examination which existed in India before the introduction of English education, a remnant of which is still found in institutions which have not been influenced by the Government Education Department, is more like the German type.

The first thing a student has to do is to write a dissertation on a subject approved by a professor of the University, who examines his work periodically. The professor recommends books for general study and

watches the progress of the student. In case the dissertation is approved, an evening is fixed for oral examination. Every student has to select two other subsidiary subjects which are not necessarily related to his principal subject. Thus the allied subjects of a Mathematics student were Geology and Sanskrit. The examinee is expected to call on the three examiners between 10 and 1 on the day before the examination in evening dress. The examiners usually ask him about the courses of lectures he has attended and the books he has read. The oral examination usually lasts for two hours. The Dean of the Faculty or a person appointed by him, who is not interested in the subjects the student has selected, sits with the examiners to write the proceedings. The oral examination is in fact more searching than the written examination and leaves no room for cramming. The examination is held in the German language, but in smaller Universities or in special cases the oral test may be held in English. The result is announced before the student leaves the examination hall. The failure of a student is a reflection more on the professor who presented him than on the student himself.

I have had the opportunity of describing the English System of education in Germany and the German System in England and I can say from my personal experience that a person brought up in the English System of examinations does not readily understand the German System just as one brought up in the German System finds it difficult to understand the position of an affiliated or a constituent college of an English University. But an Indian familiar with the pre-British System of examinations should have no difficulty in visualising the German method. The German System of teaching and examination in Universities is an unimproved form of the Oriental System. The credit or discredit for the work done by a pupil even in after life goes to his teacher.

The *Staat* examination is conducted in the same way as the examination for the Doctorate.

SECTION 20

Salaries and Pensions

All public servants in Germany are graded from 1 to 12 irrespective of the departments they serve. The salaries of persons in the same grade are equal. The salaries of teachers in the Elementary Schools vary from £120 to £200 a year and in the Middle Schools from £140 to £230 a year. The Head Masters get an additional allowance of £50 a year. In the High Schools the teachers are divided into two classes, called *Ober Lehrer* and *Ober Studienrat*. The latter were called Professors before the War but that designation is now restricted to the highest teachers in the Universities. They get from £220 to £420 a year. The Head Master of a High School gets an allowance of £60 a year in addition to the pay of his grade. The salaries of the Inspectors of Schools vary from £310 to £500 a year. Promotion is so regulated that the maximum is reached in twenty years. Officers retire at the age of sixty-five. The pension after forty years of service is four-fifths of the salary, if an officer dies, his wife gets one-fifth of the pension earned by the officer and each child a maintenance allowance till the age of eighteen. The salary of a Professor is from £500 to £800 a year. Though he retires officially at the age of sixty-five and ceases to be an *ex-officio* member of University bodies, he retains his designation, rank and salary till his death. He may deliver lectures, if he wishes to do so, and in that case, is also entitled to the tuition fees paid by the students.

SECTION 21

Adult Education (Volkhoch Schule)

Adult education has become an important problem since the War, and much attention is now paid to the education of persons who were unable to get a good education during their school days. It is not, however, a new problem. The movement for adult education first began in Denmark. In the year 1844 Bishop Grundtvig estab-

opened the first *Vollhoch Schule* with the object of imparting a general education to the sons of the farmers who had not received a decent education in their earlier years. The school was originally a religious organisation. Such schools became very popular. The State established more schools of the same type and included them in its general system of education. In 1918 there were sixty three such schools containing 6,640 pupils in Denmark. The course extended over five months in winter for boys and four months in summer for girls. The institutions are boarding schools and youths between eighteen and twenty five years of age are admitted to the schools. Most of them are sons of agriculturists. The education imparted is of a general character with a distinct agricultural bias and some selected youths are often sent to regular agricultural colleges. The object of the institutions is to present to the youths a higher standard of life and develop the traditions of good citizenship.

The system has now been adopted by Sweden and Norway where the schools are all maintained by the State. In England adult education took the form of University Extension Lectures which unlike the schools in Denmark were first organised in the industrial centres. The movement began in Cambridge in 1871 and was soon adopted by other British Universities also. It has greatly developed during recent years.

Lord Haldane made the following observations in one of his Presidential Addresses (*University and Welsh Democracy*) —

A University in its complete status is something more than a useful institution. It is a national institution—an expression of the ideals of the people. It does not exist simply for its students or for fitting them out in life. It has a great work to do for the public. There is a new conception towards which we are travelling very fast that the University has work which can only be done outside its own walls. The only knowledge that is truly adequate is the higher knowledge of which the Universities are custodians and if that is so it is an utterly wrong state of things that debar 999 people out of 1,000 from getting the chance of a high education. How can it be solved? Not by bringing Democracy in its entirety into the Universities. That would swamp the Universities and would give you quantity and

destroy quality. There is another way of doing it. Let our Universities concentrate, as they are beginning to concentrate, on the production of fine teachers, and let these people go forth outside the walls of the University and set up University influence amongst the people themselves.'⁷⁸

Lord Haldane's idea was that Universities should send out teachers to every part of the country, who may deliver courses of lectures on a variety of subjects, and that the best intellects among the students should be picked up by these teachers and sent to the Universities for systematic and regular instruction.

In Germany the adult education movement began at the same time as in England. In 1879 a private society, under the name of the *Humboldt Academie*, was established with the object of providing education for the adult population. The system has developed considerably and schools for imparting education to young men and women engaged in the different professions have now come into existence. These schools in country-places take the form of Village High Schools, which provide agricultural instruction along with instruction in general subjects. Most of these schools are maintained by the State, attendance is compulsory for boys and girls between fourteen and seventeen, and optional for others.

The schools in towns are of different types, and most of them, though not all, are under private management. Some of these schools, which partake of the character of residential clubs, are very popular in big towns. They are called *Yugendheim* (Home for Youths). They married young men, who work in factories, are accommodated in hostels, and lectures and recreations are provided for them in the evening. They are thus kept away from the evils of a big city and provided with opportunities of self-improvement. Some of these houses are only clubs without residential accommodation and are run on the line of the University settlements in East and South London, where students, mostly from Cambridge

⁷⁸ In England the idea of a University changed in a remarkable manner after the War. Lord Haldane, as Chairman of London University Commission, gave his verdict in favour of a localised teaching University restricted in numbers, but after the War the Universities assumed an affiliating character and they now recognise and affiliate colleges lying outside the University towns.

and Oxford live and mix socially with the poor people for whom they provide amusements and recreations.

In Berlin which has a population of two million, there are six private societies, in addition to the Humboldt Academy which carry on the work of adult education. I will describe the work of the Humboldt Academy in some detail.

The administration of this society is vested in a committee elected by the members. Every person who pays 2⁵ a year becomes a member and is entitled to attend courses of lectures at reduced rates. Firms both big and small may also become members the rate of subscription for the smaller firms being 15⁵ and for the larger ones 30⁵ a year. The Society gets a grant from the Municipality of Berlin which is only 1 per cent of its total expenditure and donations amount to about 2 per cent. The bulk of its expenditure i.e. 91 per cent is realised from the subscription of members and the fees paid by students. Lectures are delivered in sixteen different schools. The Municipality of Berlin has given the Society free use of school buildings light and service and the Head Masters of these schools are in immediate charge of the lectures which are delivered outside the school hours mostly in the evening. The total number of students in all these *Volkhoch Schule* maintained by the Humboldt Academy alone is 20,546 i.e. 1 per cent of the total population of Berlin. These schools were very popular even during the War. The teachers are selected by the Managing Committees from amongst the professors and lecturers of the University and the High School teachers. Engineers and businessmen are engaged for lectures in technical and commercial subjects.

The schools are attended by persons of all ages as will be seen from the following table —

Percentage of students under 20 years is	10
Percentage of students between 21 and 30 years is	41
Percentage of students between 31 and 40 years is	28
Percentage of students above 40 years is	23

They are attended by persons in different professions as shown in the following table —

Persons engaged in shops and factories	51.8 per cent ,
Government officials	14.4 per cent ,
Workmen	11.6 per cent ,
Engineers	6 per cent ,
Liberal profession	6 per cent ,
Teachers and students	10.2 per cent
<hr/>	
TOTAL	100

The schools examine candidates and award certificates of merit if required. They also prepare students who desire to appear privately in the High School examination. This examination known as *Intelligence Test*, has recently been instituted by the Ministry of Education and is equivalent to the *Abiturienten* Examination. The examination for private candidates is held every Saturday.

A national system of education does not finish its duty by merely providing sound education for boys and girls of the school-going age. Those, who have left their schools, are also to be considered. How to induce young men, who are busy in earning their livelihood, to spend their time in useful pursuits and to keep them away from idleness and dissipation, is an important educational problem.

SECTION 22

Experimental Schools

There can be no last word in educational methods and practice. The Government, the Universities and other educational authorities of every country keep encouraging new experiments in methods of instruction and the general organisation of schools. America, for example, can afford to maintain a large number of such experimental schools. The Dalton Plan⁷⁹ and the Gary

⁷⁹ It was first tried by Miss Evelyn Dewey in the town of Dalton (U. S. A). The schools are called Laboratory Schools. The responsibility of learning is thrown over upon the pupils. Teachers become advisers who can be consulted at regular hours. The class teaching is replaced by individual instruction. Dalton Plan is wrongly understood and incorrectly applied in India. See Ch. IV, Sec. 15.

System⁶⁰ may be mentioned as illustrations.

In Germany the education department of every University and a large number of teachers either private or with Government and maintain experimental schools with the object of discovering better methods. I will describe one such school in detail and refer briefly to a few other schools. This experimental school is called *Jusel Schule* and is situated in an island on *Tadelsee* near Berlin. The Berlin Corporation has given the whole of this island to the school and pays the salaries of all the teachers according to Government scale. It is a boarding school with 83 boys and 5 teachers. All the boys prepare ultimately for the *Abiturienten* examination. Some of these boys come from good families. The school has no doctor, I was told that during the past six years a doctor had only been required once and they sent for him from a neighbouring village. Simple diet in moderate quantity combined with active life is the secret of good health. Every boy is required to run round the island before breakfast. The course is about 1½ mile.

The school is performing two experiments.

As in the Dalton Plan class teaching is replaced by individual instruction. It is really not a new experiment for the method has been followed for over 800 years in the East. The schools of India before the introduction of the British System of education had no graded class teaching but concentrated their attention on the individual instruction of the pupil. Class teaching is generally supposed to be economical the teachers of this school however, assured me that it was not really economical.

60 The Gary School popularly known as Work Play Study School was first established by William A. Wirt at Gary (U. S. A.). Mr. Wirt fight against the established principle: A place for every pupil and every pupil in his place. He says that there is no more need for a separate seat in school for every individual pupil than there is for a separate seat in the public park for every individual citizen. He provides classroom accommodation for half the number of students attending the school. The play grounds however were more than usually extensive and well equipped. As nature abhors vacuum so Mr. Wirt would not like to leave his classrooms empty. Parents are invited to spend their recreation hours in school in the evening.

Henry B. Curtis in his book *Education through Play* (p. 10) says that the school is in session for 12 months a year and for 7 days a week for certain features and for 6 days a week for all features. The school takes possession of the whole life of the pupil and takes the place of the home.

though perhaps more convenient to teachers. The class-system sacrifices the brilliant boys for the weaker boys and makes the dull boys duller, it keeps in view the average students of the class and disregards the best and the worst. In order to remove the idea of class altogether, groups of boys are indicated by colours. The teachers sometimes give instruction to individual students, at other times they combine two or more students for some definite lesson. The boys do not go to the teachers, as in the old Indian System, but the teacher shifts to the boys. The system of pupil teachers, *i e*, using the intelligent boys for giving lessons to weaker boys, has been condemned by this school, an increase in the number of teachers is considered more profitable than the employment of pupil-teachers⁸¹

The second experiment of the school is the attempt to habituate the boys to the simplest mode of living. The only servants in the whole island are two female cooks. The boys themselves sweep all the roads in the island and clean the class-rooms and hostels, they make their own beds, lay out the tables in the dining room and wash the plates. They also look after the poultry, the dairy farm and the agricultural farm of the school. No servant is employed for these works. Farming in Europe, it may be added, includes the feeding of horses, cows, sheep and pigs.

The boys pay one shilling a day for board, lodging and games, which, according to European rates, is very little. The teachers have their meals with the boys. The school is self-supporting and, in the case of a deficit, which is rare, it appeals to the parents who make up the deficiency.

There are other experimental schools in Germany, known as Life Schools or *Arbeit Schulen*, Community Schools or *Gemeinschaft Schulen* (also called the Hamburg System), the Work Schools of the *Kerschensteiner* type, and the Production Schools.

⁸¹ Dr Metzner, Director of Secondary Education in the Ministry of Education, spoke very highly of this school.

The Life Schools were initiated by the Teachers Association in 1920. These schools have no definitely-fixed curriculum or programme. The whole school exists upon the mutual confidence of pupils, teachers and parents. Not only the classes but the school itself is a replica of life.

The Community Schools were worked up a year later by the teachers in Hamburg. The children write essays on subjects in which they are interested. Children of the lower classes are not compelled to read and write at fixed hours, the teacher waits for the psychological moment when the child's mind demands such instruction. The school has no regard for examinations and disclaims all educational prerogatives. The school class gives the impression of a happy well-ordered family sitting round the dinner table in the evening.

The principal idea of the *Kerschensteiner* School is that work has the same educational value in building up character as reading books and working out exercises.

SECTION 2]

School Museums

(Schule Museum)

Educational museums exist in every country. In England the educational museum forms part of the General Museum at South Kensington where children are brought by their teachers and shown models to illustrate the stories they have read in their class rooms. In Germany school museums are separate institutions. The idea of school museums originated from Pestalozzi who maintained that every lesson ought to be shown to the students in a visible form. Picture maps then came into existence and their miniatures were printed in story books. A large number of maps, apparatus and appliances have been prepared by different firms in every country as a commercial enterprise. It becomes necessary to arrange them in such a form that teachers may be able to make a selection for themselves. This necessitated the establishment of school museums. Pestalozzi's *Anschauung* (observation) though necessary is not

considered sufficient to-day. It is not enough for the boys to read or to see the picture of a particular phase of life, they should also be able to act. Every lesson should, as far as possible, be illustrated in a practical manner, models have, therefore, taken the place of pictures and in many cases these models are made by the boys themselves. Even the story-lessons are acted out by the boys in class-room. In science subjects, tables for practical work are provided in class-rooms, the students not only see the experiments performed by the teachers, but can also simultaneously do the experiment themselves.

The best school museum in Germany is at Braunschweig which I visited 20 years ago. I will here describe a museum established after the War, which I saw recently. It was established by private efforts but receives a subsidy from the Government. Every school museum is expected to have a good education library and a reading-room. The one I saw had 20,000 books, all on school-education, and it subscribed to 275 educational magazines. The museum was divided into sections according to subjects. At the entrance, the Kindergarten gifts are shown on one side and the Montessori apparatus on the other. The apparatuses for teaching each subject are exhibited in separate rooms, and the apparatus required for each type of school are arranged in separate almshouses. For instance, in the Geography room the apparatuses necessary for Primary Schools, for Middle Schools and for High Schools, are arranged separately. School authorities can obtain a catalogue of the apparatuses from the Director of the Museum.⁸² In particular, I would like to refer to three things which have been newly set up —

(1) The radio room in which the apparatuses of different makers used in schools are illustrated. (2) The biology room does not merely show the bones or stuffed

⁸² Business firms are prepared to send their apparatus free to a permanent museum in India, and they will send them to a temporary museum also if one third of their articles are likely to be sold. Reference should be made to the Director of *Zentral Institution für Erziehung und Unterricht*, 120 Leipziger Strasse, Berlin.

bodies of different animals, but plants and dead animals are specially prepared to preserve their original form for a long time, and are kept on the tables and not in alcohol (3) There is also a new design of metallic stamps, by which the general outlines of any country, continent or group of countries can be printed for the use of school boys. The impression produced is much neater than the outlines supplied in examination rooms in India. A list of all the models required for the teaching of different subjects in each type of schools with the address of the firms from which they can be obtained, is also published by the museum.

SECTION 24

Relation between Universities and Industrial Firms

The intimate relation of the Universities and Industrial firms is an important aspect of the German System of education. In England the Industrial Magnates dismissed, till recently, the University Professors as mere theorists and relied entirely on their own natural genius. They are very jealous of their trade secrets which in many cases they have themselves discovered hence they do not allow outsiders to visit or work in their factories. The case however is different in Germany. Every factory large or small, has a University Professor on its consulting staff and a laboratory attached to the factory. The problems that arise are referred to the Professor every day, and he directs his pupils to work on them. Students who have done some research work in that line and then obtained their Doctor's degree are sent by the Professor to work in the factory laboratories as assistants, and later on, they got permanent posts in the same factories. In a small factory almost all officers are old pupils of the Consulting Professor. The larger factories have several Consulting Professors for different branches of their work.

This arrangement is for the mutual advantage of both the factories and the Universities. University professors and students remain in constant touch with the problems of industry, and their researches always keep

the question of practical application in view. The factories, on the other hand, get the best scientific advice. The professors of engineering colleges and applied sciences are persons who have had long practical experience of factory work, they are always selected from factory officers and not from the junior grade of lecturers, and can therefore combine theoretical research with its practical application.

A new experiment in establishing connection between Factories and Universities has been devised by American Factories, notably by Westinghouse Electric and Manufacturing Co., East Pittsburgh. They invite professors of the Universities to special conferences held in their own factories. These conferences are closed conferences and all the members are guests of the factories. A very elaborate programme is prepared by the directors of the factories, and discussed at the conference.

SECTION 25

Conclusion

Before the War the Germans had the greatest reputation for organisation. Their military arrangements were planned to the minutest detail, and every soldier knew what he had to do in case war was declared against Russia and France. Even the war timing of trains and the seat of every soldier was fixed. But they were unable to act in unforeseen emergencies without orders from higher authorities. This proclivity for detailed organisation is a characteristic of the race. I will illustrate it by an incident I myself witnessed.

In my student days one of the professors organised a scientific excursion to Bremen docks and some fifty students gave their names. A printed book of 200 pages was given to every student which contained detailed programme of excursion. Our places in train, in tram cars, in hotels and even on the dining tables were fixed and every one of us was assigned his place in the groups in which the party was to be divided when visiting factories. At the time of departure of the train one of the students did not turn up. The professor became confused and

said *Nichts zu machen* ' (We can do nothing now) I walked up to him and enquired whether the absent student had paid his fees. On being told he had I said that my walking stick may as well take the place of the absent student. Every one understood the joke and laughed.

The elaborate and detailed planning of work in the field of literature as well as in administrative organisation is the characteristic of the German nation the English, on the other hand have a greater aptitude for facing sudden and unforeseen contingencies.

The second characteristic is the industrious habit of the nation. Germans are more hardworking than any other European nation. In the Universities for example lectures begin at 7 A.M. in winter and 6 A.M. in summer and go on till 9 P.M. with a break of two hours for the midday meal. In spite of this hard work their health is by no means inferior to the health of those nations who spend more time in sports and recreation.

Before the War, the different States were united together under the dominating influence of the Kaiser and the constitution was so framed that Prussia had a determining voice. Kaiserdom has now disappeared and the new binding force now is the common language and cultural unity. The present German State is not dominated by any single element. Every one of the twenty six component States has an equal interest in the Empire. The States clearly realise the advantages of joining together under a common Empire in which each has an equal voice, and it appears probable that German speaking territories which are still separated from Germany will soon join the Empire. Austria owing to her economic condition will be the first to join. The Germans in Czecho-Slovakia and German Poland have more vested interests in Germany than in the country to which they have been artificially attached. The German State possesses what may be called a gravitational force by which all territories having the same affinity are attracted to it. The case is just the reverse in the British Empire which is dominated by one country. The British Empire like the German State has no constitution of its own. It

may be said to possess a centrifugal force, for the constituent territories have a tendency to deatch themselves on account of having little or no common interest⁸³ Germany has completely reorganised its educational and administrative machinery after the War. The first characteristic feature of the new German System of education is the co-ordination of different stages of education. The system has been well planned and provides for the requirement of each individual. As soon as a person has chosen a profession for himself, he knows what he should study and all facilities are provided for him. Germany is the only country that has made technical education compulsory for everyone. Although France discussed the question for several years,⁸⁴ it was Germany that completely worked it out in practice.

The third characteristic of German education is the production of specialists. Specialisation is not confined to professors. Every person is a specialist in his own subject, but outside his own specialised sphere, he is no better than a school-boy. Specialisation is essential in these days of hard competition, but over-specialisation prevents the production of good leaders. In England the managing directors of successful firms, both industrial and commercial, are often men of broad, liberal education, with experience of the world, and they begin with little or no specialised knowledge of the industry they are required to control and direct. Germany puts every student to research work, while in England and France only the best students are employed for this task. Brilliant discoveries are often made outside Germany, but it is here that all minor details and practical applications are worked out. The relation between the Universities and the Industries is more intimate in Germany than in any other country and this is the secret of the supremacy of German industries.

Germany, inspite of her advance in industrial development and compulsory technical education, has not forgotten her classical institutions which are the centres

83 Banchera Banford, in his book *Janus and Vesta* (Chap VII), has suggested a new word for the British Empire, namely, *Britamerindian*.

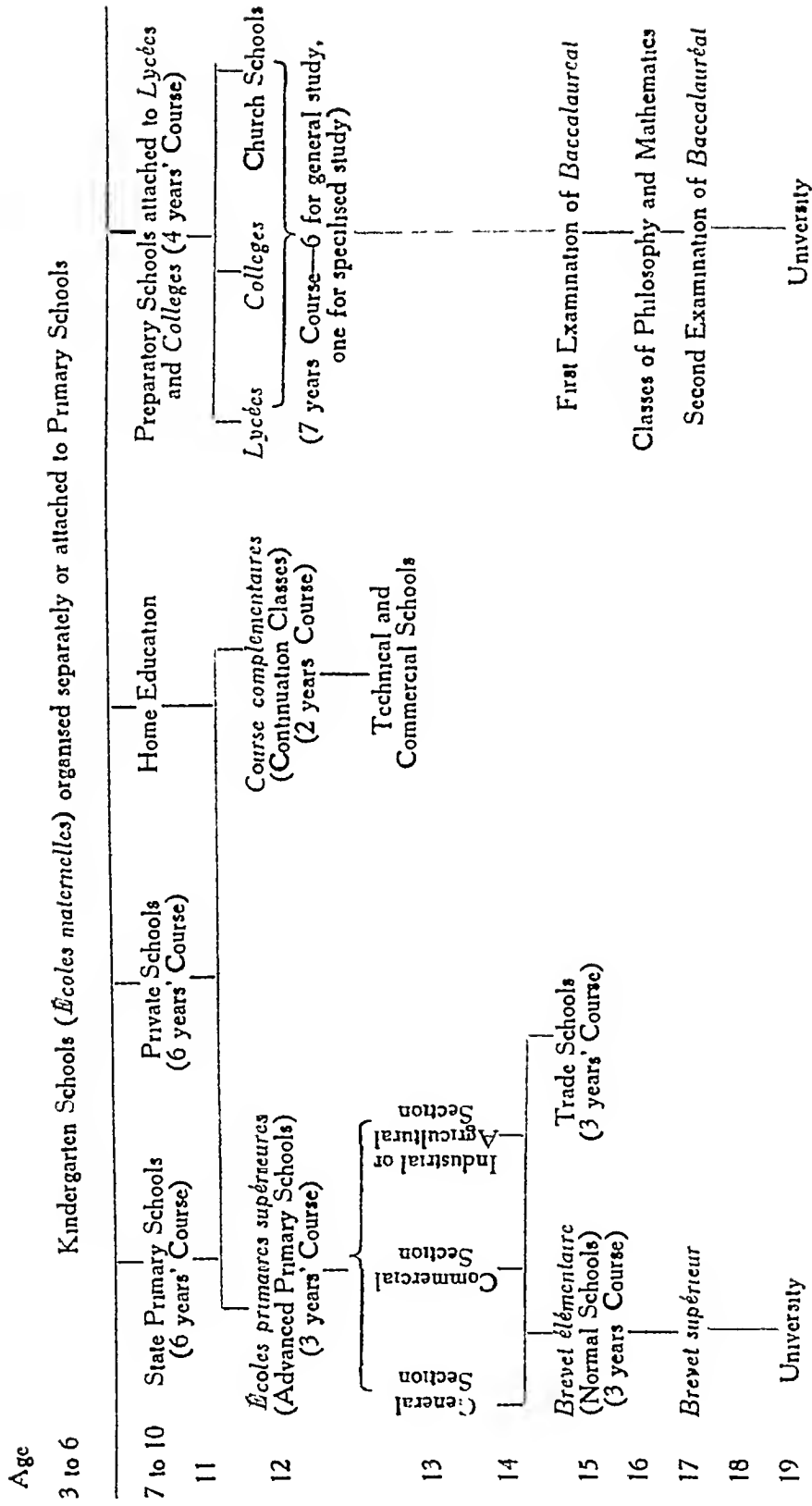
84 See Chap III, Sec 14

of her learning and culture. These institutions are *Gymnasiums* and Faculties of Philosophy in the Universities. They are at present as popular (if not more) as they were before the War. They enjoy their intellectual freedom and in spite of the materialistic tendencies of the age, are more inclined to spiritualism than they were before the War.

The weak points of the German System are (1) the practical wastage of a year or so, when a student joins a University which as has been explained before is due to the lack of proper guidance and (2) the absence of general training and development of character which are essential for general administration and statecraft.

Germany has in the course of three centuries developed a system of education of which she is rightly proud, and it is due to her system of Education that in spite of her having to pay 125 million pounds every year for an indefinite period to the Allied Powers as War Indemnity people in general are more prosperous than in any other European country except England.

Plan of Education in France



CHAPTER III.

SYSTEM OF EDUCATION IN FRANCE

SECTION I

General Organisation

France has a total area of about 212 659 square miles, and a population of 39½ million of whom about 1½ million are foreigners. The population is about the same as that of England and Wales.

Education in France is not centralised under the Minister of Public Instruction but distributed among seven different Ministries¹ each with its separate budget and its own method of organisation and control. The central office of the Minister of Public Instruction is divided into five sections² each under a Director. Technical Education is under a separate Minister. Each section is further subdivided into sub-sections called *bureaus*. The Secondary Education section for example, has five bureaus which deal respectively with scholarships and exemptions from tuition fee accounts *Lycées* *Colleges communaux* for boys and girls and female education. The Minister has educational libraries and school museums under his direct charge.

For purposes of education France is divided into seventeen Provinces or *Academies*³. Algeria is governed not as a colony of France but as one of its provinces; it is not under the charge of the Colonial Minister but of the Minister for the Interior. As it is one of the seventeen academies of France, education in Algeria is maintained

1 The seven Ministers are those of Public Instruction Agriculture Commerce Public Works War Marine and Hygiene.

2 The five Departments are—Universities and Higher Instruction Secondary Education Primary Education Accounts and Statistics, and Fine Arts.

3. The Academies are—Paris (7) Algeria (3) Lille (6) Nancy (3) Strasbourg (3) Caen (6) Dijon (5) Besancon (4) Grenoble (5) Lyon (3) Clermont (5) Poitiers (8) Rennes (7) Bordeaux (5) Toulouse (7) Montpellier (5) Aix (5). The numbers within brackets indicate the departments in each academy. There are 87 departments in all.

and controlled by the Minister of Public Instruction. The town of Paris has the status of a Province or *Académie*. At the headquarters of each *Académie* or 'province,' there is a University. All these seventeen Universities have faculties of arts and science, many of them have faculties of medicine and law, and a few of them have faculties of technology and commerce. Strassburg is the only University which has a faculty of theology. Each *académie* is divided into three or more smaller divisions, called 'departments.' There are, in all, eighty-seven departments. Each department has, at least, two normal schools, one for boys and one for girls, and at least two secondary schools, but a large number of them have several schools. There are over 350 secondary schools in all the departments taken together.

The Head of a University is called the *Recteur* who combines in himself the powers of the Chancellor, Vice-Chancellor and Pro-Vice-Chancellor of an Indian University. All the Secondary, Normal and Primary schools situated in the province are also controlled by the *Recteur*. He is the centre of all educational activities of the province, and co-ordinates all branches of instruction from the infant class to the highest stage in the University. The *Recteur*, who must hold a Doctor's Degree, is appointed by the President of the French Republic on the recommendation of the Minister of Education. He can, on his own responsibility, appoint all minor educational officers in the schools, such as tutors and demonstrators, and can recommend to the Minister names for appointment to higher posts. He supervises the teaching work in schools through Inspectors. Each *académie* has one, and in some cases two, Inspectors known as *Les Inspecteurs d'académie*. They are promoted from the ranks of professors in the University or High Schools and sometimes from the rank of Inspectors of Primary education. They inspect only the Secondary schools in their province. The *Recteur* has also under him Primary School Inspectors attached to each department of the *Académie*. The work of the *Recteurs* and Inspectors is checked by special officers known as 'Inspectors General' (*Inspecteurs Généraux*).

An Inspector General is appointed in each *Académie* he is the local representative of the Minister of Public Instruction. Though the Rector is the centre of all educational activities most of the administrative control is exercised through the Inspector General. There are in all seventeen *Inspecteurs Généraux* one in each *Académie*. There are also Special Inspectors in charge of specialised studies. The Minister acting through the Director concerned controls the academic side through the Rector and the administrative side through the Inspector General.

The Minister has also several Advisory Committees the most important of which is the Superior Council of Public Instruction. It consists of elected and nominated members and acts both as an Advisory Body and as a tribunal. To this committee are referred all the administrative regulations the syllabuses of studies and the conditions under which the examinations are conducted. It is the final authority in all contentious and disciplinary affairs. It also decides the establishment of new colleges and the abolition and creation of new posts in the various Universities. In short it advises the Minister in all matters relating to the discharge of his duties. Each Director has also an Advisory Committee attached to his section.

In addition to these Advisory Committees attached to the Central Office of the Minister there is also a committee in each Sub-division of the Province or Department. This committee is called the Departmental Council, and is presided over by the *Préfet* whose office is similar to that of the District Magistrate in India. The *Préfet* is the officer who really holds the strings of government in his hands. He is appointed by the President of the Republic on the recommendation of the Minister for the Interior. The period of his office is usually not long, but while in office he does intend to rule. Theoretically speaking the teachers are appointed by the *Préfet* on the recommendation of the Inspector of the *Académie*, but it is the *Préfet* whose opinion really matters. The Inspector of the *Académie* is the Vice-

President of this committee, and the source of all its activities. He initiates all educational movements.

The Minister has also under him some special institutes, *e.g.*, those for circulating films and lantern pictures, for supplying general information, for teaching modern languages, for instruction by correspondence, etc.

The age-limit for compulsory education in France is thirteen and not fourteen as in England and Germany. Children are permitted to leave earlier if they pass the Public examination, described in the next section. I have seen a boy who passed his examination at the age of eleven and left his school before completing the age of twelve. Children are permitted to study in Private schools and even at home. Primary education is free. France has established Advanced Primary schools (called (*Ecoles primaires supérieures*)), on the model of which the Central Schools in England and the *Fortbildung Schule* in Germany were organised. These schools are also free. They admit selected boys, and then education has a technical bias. Tuition fee is, however, charged in High Schools, called *Lycées*. To meet the demand of the working classes, less expensive High Schools under the name of *Colleges* have recently been opened. The High Schools are all Boarding Schools. Strictly speaking, they all have hostels attached to them like the colleges of India, but the majority of students reside outside. This difference between English Public Schools and French *Lycées*, has arisen from the fact that while Public Schools in England are situated in country-places, French *Lycées* are often situated in towns, and in many places close to the Universities. The difference between the French *Lycée* and the English Public School will be described in greater detail in a subsequent section.

Higher education is open to the public, and no fee is charged for it. Students who desire to appear in examinations and take degrees, must matriculate and pay the prescribed fees. But every one is at liberty to attend any University lecture he pleases without any ceremony. On one occasion, I myself found a lecture-room filled with street wayfarers on account of rain, who left the room in the middle of

lecture when the rain ceased. In professional and technical colleges only selected candidates are admitted, most of whom are entirely supported by the State. Institutions of every grade from infant schools to Universities and Professional colleges are maintained entirely by the State. Private institutions being very few. The training colleges are not intended exclusively for those who intend to become teachers. They impart general instruction and specialise in the theory and practice of teaching.

The French System of education as well as the machinery for its control is very well organised, though not always very simple. The programme of work in schools of the various grades is well co-ordinated, as they are all under a single authority, namely the *Recteur* of the *Académie*. It is interesting to note that the phraseology of Indian educational administration is derived more from France than from England.

The annual budget of the Education Department for the year 1927 was 16 million pounds. The figure did not include the expenditure incurred on education by six other Ministries. It is interesting to note the proportion of the expenses incurred by the Department of Public Instruction on various grades of education —

Administration	0 3
University and High Education	5
Secondary Education	11
Primary Education including Normal Schools	79
Capital Expenditure including Damages due to the War	4 7
TOTAL	100

SECTION 2

Plan of Education

The French System of education is so arranged that an intelligent child of humble parentage has an opportunity of obtaining the highest education in a University or

technical college by receiving free education in successive stages. Though he may not be able to join a *Lycée* or a *College*, where fees are charged, he can join a University by passing successfully the final examinations of the Primary School, the Advanced Primary School and the Normal School, which will be described in subsequent sections.

Education in France is compulsory, up to the age of thirteen, but intelligent students are permitted to leave Primary Schools earlier, if they pass a public examination called *Certificat d'études primaires*. Intelligent students who desire to continue their studies further usually pass this examination at the age of twelve and even earlier.

Unitary schools do not exist in France, and attendance at State Schools is not compulsory, though, in practice, about three-fourths of the children attend these schools (called *Ecoles communales*). Those who do not join *Ecoles communales* may either attend Private schools, which are mostly denominational under the management of religious bodies, or join Preparatory schools attached to *Lycées* and *Colleges*, or receive instruction at home. The privilege of providing home education during the age-limit for compulsory education is unique in France. But hardly one per cent avail themselves of this privilege in spite of the fact that a trained French governess can be obtained for thirty shillings per mensem including board and lodging.

After going through the course of Primary schools, public or private, the students have four options. (1) They may join advanced Primary schools or *Ecoles primaires supérieures*. The courses in these schools extend over a period of three years and are divided into three sections, technical, commercial and general. The last one leads to Normal schools. (2) They may stay on in the same Primary school and attend for a year or two special classes called *Cours complémentaires*. Instruction in this course, though not entirely technical, has a technical bias. (3) They may attend commercial and technical schools in the evening and work as apprentices in the day-time. In country-places they attend

agricultural schools (4) They may join a service and attend classes specially arranged for the adult population Attendance in technical schools is not compulsory in France as it is in Germany

The students who join the general section of advanced Primary schools are examined at the age of fifteen or over This examination is called *Brevet élémentaire* and entitles a candidate to join a Normal school Advanced Primary schools and Normal schools for boys and girls are separate Co-education is given only in Primary schools and Universities In large towns where a sufficient number of children is available boys and girls are separated even at the primary stage

The courses of instruction in the Normal schools extend over a period of three years at the end of which boys and girls pass an examination called *Brevet supérieur* This examination not only qualifies them to become teachers in Primary schools but also makes them eligible for certain grades of public service It also leads to University education and with certain restrictions is taken as equivalent to the final examination of High Schools

Students who join the technical and commercial sections of Advanced Primary schools are given, at the end of three years a special certificate called *Brevet d'enseignement primaire supérieur* They may enter business or continue their education in Trade schools

Children of well to-do classes do not join *Ecoles communales* but attend Preparatory schools up to the age of ten These schools are sometimes attached to *Lycées* and *Collèges* and are sometimes organised as separate institutions They charge fees At the age of ten children join a *Lycée* or a *Collège* We have seen that instruction in classics and modern sciences is imparted in different institutions in Germany In France it is imparted in the same institution in parallel classes The courses of instruction in a *Lycée* are divided into four groups a student may join one of these groups, but change is permissible at every stage The groups are (a) Latin and Greek, (b) Latin and Modern Languages

(c) Latin and Sciences, (d) Modern Languages and Sciences

The course of instruction in each of these groups extends over a period of six years, at the end of which a public examination, called the first part of *Baccalauréat*, is held. After passing the first part of the examination, students are required to join special classes of Philosophy and Mathematics, and pass the second part of *Baccalauréat* a year later. They are then eligible for joining a University in any faculty. Students who are preparing for the admission examination of higher Normal schools or higher Technical colleges stay on in the *Lycées* after passing both parts of *Baccalauréat*. Special arrangements are made for their coaching. They are permitted to appear in the second part of *Baccalauréat* again in another subject.

SECTION 3

Primary Education

The real beginnings of the education of the poor were due to the "Society of the Brethren of the Christian Schools," established in 1679 by Jean Baptiste de la Salle. He excluded Latin from his schools and substituted group-instruction for individual teaching which had prevailed hitherto. In his scheme of the re-organisation of the School System, Napoléon did not include the Elementary schools. Elementary education began in earnest in 1833 under the influence of M. Guizot, the then Minister of Public Instruction.

In France, as in every other progressive country, Primary education is compulsory and free. Every boy and girl must, as already pointed out, receive instruction either in a Public School or a Private School, or at home. The age for compulsory education is between six and thirteen—one year less than that in England and Germany. Parents very often prefer to send their children to school at the age of five or even earlier. Infants' classes have, therefore, been opened which admit children above the age of three. These classes are sometimes attached to Primary schools, but are often organised

separately and are called *Ecole maternelles*. These schools are more popular in France than in other countries as parents here are eager to transfer their responsibility to teachers who are females and have made a special study of infant teaching. The popularity of the system may be judged from the fact that 10 per cent. of the children attending Primary schools are in the infant class.

The courses of instruction in Primary schools are divided into four stages: (1) Preparatory (5 or 6 to 7) (2) Elementary (7 to 9) Middle (9 to 11) and Superior (11 to 13). In the preparatory section children are taught moral lessons, reading and writing, the French language (with recitation and grammar), arithmetic, object lessons, drawing, manual work, singing and physical exercise. In the elementary and middle courses, history of France and geography are added. In the superior or upper section students are also taught the rudiments of civics and politics, such portions of the history of the world as has influenced French history, hygiene and elements of agriculture and horticulture. In the case of girls domestic science and physical science take the place of object lessons. The subject matter of instruction is not rigidly prescribed. It is selected to suit the environments of the pupils under the general direction of the Inspector of Primary Schools. The programme of work is determined by the Minister but teachers are permitted to change the programme with the consent of the Inspector of Primary Education. In the country places the schools are mixed but in towns where large numbers of pupils are available boys and girls are taught in separate schools.

I attended a few classes in the State Primary Schools in different subjects and found that they still follow the classical method of teaching geography. Children were asked to explain in words the definition of the Tropic of Cancer and the Tropic of Capricorn and other geographical terms. In England the teaching of geography is of a more practical nature. Children are sometimes asked to draw up a detailed programme of holiday tours on the Continent and other countries for

a given period of time, and within a given budget. In France children spend considerable time in writing French composition and relating stories in the class rooms. On account of the use of the Metric System, the teaching of arithmetic becomes simpler and the boys do not waste much time over complicated vulgar fractions. My personal observation coincides with the remarks made by Mathew Arnold in 1861 —

“ In nearly all the French Primary Schools, reading and arithmetic are better than ours, arithmetic in particular being much more intelligently taught by their masters, and much more intelligently apprehended by their children, the information about geography and history is decidedly inferior ”

Certificat d'études — This certificate of study is awarded on the result of a public examination. The manner of conducting this and other public examinations is described in detail in a subsequent section. This examination is both oral and written. The written examination is held in French composition, arithmetic, history and geography. An oral test is also held in these subjects and includes recitation. If necessary, tests in singing and physical exercise are also held. The nature of the examination, from what I have seen, does not lead to cramming. No similar examination at this stage, which is the age-limit of compulsory education, is held in Germany or England. Germany does not believe in examinations at all. In England opinion is divided: the report of the Adolescent Committee recommended an examination, but insisted that it should be optional, which, in practice, means no examination at all. In France the examination of *Certificat d'études* entitles a child to leave the school even if he has not attained the age of thirteen. Most of the children pass this examination and leave the Primary schools at the age of twelve, and a few still earlier.

School Attendance — The law provides that Municipal School Commissioners be appointed to supervise and encourage school attendance. Illness, death of a near relation, etc., are considered legitimate grounds for absence. The members of the Attendance Commission are elected by the Municipal Council. The Mayor, or

some one appointed by him presides over the Commission which has no control over the school or the teachers. The Commission has prescribed graded measures of punishment, warning comes first and posting up the name comes next. Should the second measure fail also, it becomes the duty of the Primary Inspector to call the parents before the Commission. In an extreme case, the matter is reported to the Magistrate who may absolve the accused altogether or may inflict a fine from 2d to half a crown. In practice however the members of the Commission are afraid to displease the parents who are their electors.

The State Elementary Schools or *Écoles communales* are on account of their religious neutrality sometimes called *Écoles laïques* and sometimes *Écoles sans Dieu* (Godless Schools). They all impart moral education by means of text books. Very often the lesson on morality is explained as if it were an arithmetical problem abstract notions are given to the child and he is made to learn the driest summaries with the general result that the lesson on morality is the most boring of all. The religious organisations are constantly waging war against State Schools for not imparting religious instruction. They declare in their religious press that the neutrality of lay schools takes away the basis of a moral education. They further assert that the suppression of God in the schools has swollen the number of young malefactors to such an extent that the statement that opening a Public School necessitates the building of a prison at its side, can be supported by statistics.⁴

This is an exaggeration but no one can deny that moral lessons without any conception of Divinity become vague and make no impression on the mind of children under eleven years of age. The controversy between Church and Public Schools was revived after the War and a considerable number of the French people believe that the Public Schools are the cause of present disorders and not the Great War. The re-opening of a large number of Free schools (Church schools) is one of the most

significant changes in French educational system since the War. These schools teach the syllabus of Public Schools in secular subjects.

Children, who do not attend the State or Church schools but receive their education at home, are examined periodically by the Headmasters of State schools.

Boys and girls after leaving the Primary schools are divided, as has been explained in the previous section into four groups. (1) Most of the children take up some job. (2) Others join trade-schools either as whole-time or part-time students. Part-time students attend school usually in the evening and work in shops as apprentices during the day. These trade-schools are very similar to those in England. (3) Some children stay on in the same school for two years or more, and attend a course called *Cours complémentaires*. In this additional course, a definite bias is given towards practical work. Children are encouraged by the State to stay on for two years more after finishing the Primary schools course and attend these additional classes. (4) Some boys and girls enter the Advanced Primary schools, called *Ecoles primaires supérieures*. These schools have existed in France for a long time. The courses of instruction extend over a period of three years, and a large number of technical and professional subjects are taught. At the end of the first year the children are divided into sections. They have commercial, agricultural, maritime, technical and professional sections in a number of subjects. There is a section of domestic science in girls' schools and a general section exists in every school. In most of these schools, evening classes are also organised. These schools are separate for boys and girls. Mixed classes exist in France only in small Primary schools and in the University—in the former case, on account of the smallness of number, and, in the latter, on account of the prohibitive cost of duplication.

The number of pupils in the *Ecoles primaires supérieures* in 1924 was 73,400, of whom a little less than half (34,091) were girls. The total number of pupils in Primary schools in the same year was a little

over three million.⁵ The number of students, who join these schools, is about 5 per cent. of the number who pass out every year from the Primary schools. The period of instruction is about 36 hours (not periods) a week including practical work. The courses of instruction include French a second modern language history, geography mathematics, mechanics, physics, chemistry singing and gymnastics in addition to the specialised study of technical and professional subjects to which about two-thirds of the time of instruction is devoted. The technical and professional subjects taught in the advanced Primary schools are industrial chemistry industrial electricity, agriculture agricultural chemistry business methods, including customs and commercial law, accounts and house management and several other subjects. These schools are not technical schools but technical subjects are taught in order to give a practical bias to the general education and to enable the boys and girls to join industrial firms as intelligent apprentices.

At the end of this course a public examination called *Brevet d'enseignement primaire supérieur* is held. It is conducted in the same way as other examinations and technical subjects have the same importance as subjects for general study. Details of the syllabus of each subject are given in the printed programme issued by the Ministry.

The general section gives instruction of a general nature that leads on to the Normal school education which will be described in a subsequent section. The final examination of the general section has a different name it is called *Brevet élémentaire*.

SECTION 4

Secondary Education

The Secondary Schools of France exercise an extraordinary influence over all other forms of education. The Society of Jesus founded by Loyola in 1540 and popularly known as Jesuits laid the foundation stone of

French Secondary Schools The whole programme of their education was supported by religious enthusiasm strengthened by an unshaken faith in determinism and a complete subordination of all personal interest The education they gave was provided free In 1802 we reach the date that marks the complete re-organisation of the scheme of public instruction

Napoléon I wanted Secondary education to be imparted exclusively in Public Schools, called *Lycées*, maintained entirely by the State They imparted general instruction with military discipline The Second Republic in 1850 cancelled the State's monopoly of Secondary education and instruction is now imparted in both Public and Private High Schools The latter are usually maintained by religious bodies, and provide denominational religious instruction Government Inspectors see to their hygienic condition but the instruction is entirely under the control of the priests The State exercises an indirect control inasmuch as these schools prepare candidates for the final examination of High Schools, and must necessarily follow its curriculum Napoléon I gave the Secondary schools their present organisation, and the Jesuits their spirit and pedagogical methods Secondary schools are divided into two classes, viz, *Lycées* and *Collèges* They differ in their origin and administration, but both teach the same syllabus, prepare the candidates for the same examinations, and are staffed with professors of similar qualifications The *Lycées* are maintained entirely by the State and charge a high fee They correspond to the Public Schools of England but differ from them in some important respects The English Public School, besides being well-endowed, is supported by high fees, it is independent in its administration the Head Master makes his own curriculum and practically controls the appointment of the whole staff The French *Lycée* has little in the way of endowed funds and is wholly dependent upon the Central Government for financial support; the *Proviseur* (Head Master) has little freedom for initiative, being reduced almost to the position of a State functionary, the curriculum is standardised for all schools

and little time is given to athletics. The English Public School prides itself on its development of character, the French Lycée on its culture and knowledge.

The Colleges are maintained either by the Municipalities or by Private bodies. They receive Government grants and charge a low fee. They correspond to the new Secondary schools established recently by Local Educational Authorities in England. The system of administering the Lycées which are maintained entirely by the State is very different from that followed either in England or in Germany. Each school has a Committee of Management presided over by the Rector of the University or a person appointed by him. The Prefect (or District Officer), the Mayor of the town and the Judges are *ex-officio* members of the Committee of Management which also includes representatives of teachers and tutors and two representatives of the parents nominated by the Minister. The State does not undertake an indefinite financial responsibility. The fees paid by the students are credited to the account of schools and they also receive a fixed grant which is revised every five years. The Managing Committee draws up its own budget and is authorised to spend the savings on capital expenditure or to carry them forward to the next year's budget.* The Committee can also spend its savings on the addition of new departments of study.

The courses of instruction are divided, as in Germany, into three sections—Classical in which both Greek and Latin are compulsory. Semi-classical in which Latin and either Modern Languages or Science and Mathematics are compulsory. Modern, which teaches neither Latin nor Greek but specialises in Modern Languages, Mathematics and Science. Instruction in the three sections is given in parallel classes in the same Lycée and not in separate institutions as in Germany.⁷

The classes in each of these courses are now completely separate. Monsieur Bérard introduced a new

6 They are not compelled either to spend the balance of the budgeted amount in the last week of the financial year or to return the unspent balance as is the case in India.

7 They are called *Gymnasium*, *Real Gymnasium* and *Ober real Schule*.
See Chap. II Sec. 8.

change in 1923 by instituting the same courses of instruction for the first four years and beginning a separate course from the fifth year. The Bérard change was very unpopular, and two years later (in 1925), the old arrangement of 1902, of having separate classes from the very beginning, was restored. Boys and girls desiring to acquire higher education usually begin their studies in Preparatory schools. Some of these schools are attached to Lycées and Colleges and some are organised as separate institutions. There exist also some Private Preparatory schools maintained by a single teacher.

Boys and girls join Lycées and Colleges at the age of ten. They begin Latin at this age and Greek two years later. In the Science section, Latin is not taught, but considerable attention is paid to the study of French and other European languages. The regular course of instruction extends over a period of seven years, but a considerable number of pupils stay on for a year or two more and prepare for the admission examinations of special colleges, such as higher normal schools, polytechnics, schools of mines, engineering schools for roads and bridges, etc.

Instruction for the first six years is of a general nature, and the seventh year is devoted to specialised study of a few subjects. The following time-table of the Second Form, in which the boys have attained the age of fourteen, shows the relative importance of various subjects in different sections. The figures indicate the total number of *hours* (60 minutes) per week. The time-table for each form is fixed by the Ministry of Education.

	SECTION A	SECTION B	SECTION C	SECTION D
SUBJECTS	Latin and Greek	Latin and Modern Languages	Latin and Sciences	Modern Languages and Sciences
French	3	3	3	3
Latin	4	4	4	0
Greek	5	0	0	0
Modern History	2	2	2	2
Ancient History	2	2	0	0
Geography	1	1	1	1

	SECTION A	SECTION B	SECTION C	SECTION D
SUBJECTS	Latin and Greek	Latin and Modern Languages	Latin and Sciences	Modern Languages and Sciences
Modern Languages	2	7	2	7
Mathematics	2	2	5	5
Physics and Chemistry	1	1	3	3
Practical Science work	0	0	2	2
Drawing	2	2	4	4
Geology	twelve one hour lectures for all sections			
Total	24	24	20	27

Baccalaureat — At the end of the Secondary school course students appear in a public examination called the *Baccalaureat*. Success in this examination entitles a student to join a University and also serves as a passport to various public services. It is of the same standard as the *Habilitation* in Germany. The syllabus and rules regulating the conduct of this and other public examinations are printed in separate pamphlets. It consists of two parts and no one is allowed to appear in the second part unless he has passed the first at least one year before. The first part is an examination in general subjects and is held after the completion of a course of studies for six years. In the second part students are examined in specialised subjects. A candidate is permitted to appear in more than one specialised group in the same or successive years. A candidate must have completed his sixteenth year by November 1 before appearing in the first part and his seventeenth for the second part. The certificate of *Baccalaureat* is not awarded unless he has passed Part I and also Part II in at least one group of specialised study. The examination is both written and oral the latter being more important. The maximum marks called *Coefficients*, are allotted in the following manner —

Written Examinations

1	French Composition, 3 hours' paper	2
2	Latin Translation, 3 hours' paper	2
3	Mathematics and Physics (or Greek), 3 hours' paper	4
TOTAL		8

Oral Examinations

1	Latin text	1
2	French text	1
3.	Conversation in a modern language	2
4	History, one question	1
5	Geography, one question	1
6	Mathematics, one question	3
7	Physics, one question	2
8	Chemistry	1
TOTAL		12

Examinations are held twice a year, once after the end of the school academic year, *i.e.*, in June or July and again in October, just before the commencement of the University Session. Students who fail in the June examination are permitted to appear in October. The October examination is open only to those candidates who have failed in June. The examination fee is eight shillings for the First Part and fourteen shillings for the Second Part. The French System of examinations, which will be described in detail in a subsequent section, has marked advantages over the English System.

Secondary Schools for Girls—Public Secondary Schools for girls were organised during the Third Republic under the law of Camille Sée of 22nd December 1880, and an examination called *Diplôme de fin d'études secondaires* (Diploma of Secondary School Final Examination), was instituted. Instruction was imparted in special schools established by Private bodies and by Municipalities assisted with liberal Government grants. As there was a continued demand for girls' education, Lycées and Colleges for girls were opened, having the

same status as those for boys. Girls now read both for the Diploma examination and for the *Baccalauréat*. The old syllabus did not include the teaching of dead languages Latin and Greek but comprehended a large variety of subjects known under the general designation of Domestic Science. The number of girls in Public Schools in the year 1923 was 51 000 and is steadily increasing. Specialised classes in Science and Philosophy preparing candidates for the Second Part of *Baccalauréat* have also been opened.

I will explain the general organisation of Lycées by describing one I have seen myself.

SECTION 5

Lycée Louis le Grand

The Lycée Louis le Grand has 1 600 students (which is the normal size for a Paris school) of whom 500 are boarders and 300 semi boarders. The semi boarders have midday meals and attend preparation classes with the boarders but go home for dinner and spend the night there. The tuition fee varies with the class from 12 to 21 shillings per month payable for 10 months in a year. The additional fee payable by boarders which includes board lodging, washing and private coaching is £2 10s per mensem, the maximum fee for the whole academic year being £40 for a full boarder. The fee in country places is considerably less. The total expenses of a foreign student reading in a French Lycée is £60 a year in country places and £75 a year in Paris. Reduction in fees is allowed to a second brother studying in the school. Boys join at the age of ten or above. The Lycée Louis le Grand has a Preparatory school which admits boys between the ages of six and ten. The Principal (called *Principal*) is responsible for teaching and discipline. The total expenditure of the Lycée is £68 000 of which £31 200 is paid by the Government and the rest realised from tuition and boarding fees. The salary of the *Principal* is £376 a year - the senior professors get from £226 to £320 a year. Every Lycée has an officer, called the *Surveillant Général*

professeur principal (Censor), who looks after discipline. He has no teaching work and is selected from amongst the senior professors. He is the second-in-command in the Lycée. The teaching staff is different from the boarding house and disciplinary staff. The hostel forms part of the school building. Dormitories and preparation and dining rooms are adjacent to the class rooms. Seven dormitories are provided in this school for 350 boarders, about 50 boys sleeping in one hall. A master, who is not on the teaching staff, sleeps in an adjoining room whence he can see all the boys in the dormitory. The boys get up with military precision at the sound of the gong, and wash at places fixed for every one of them. They have French breakfast of bread and coffee, and then go to their preparation classes under the supervision of boarding house staff. Though the boarding house staff, which supervises the daily life of the students and helps them in preparing their lessons, is different from the teaching staff of the school, the two sections of the staff help each other when an officer goes on leave. Teaching is carried on in the same building and a dinner, consisting of *porc-d'arrée*, meat, vegetable and sweets,

officers are engaged for the purpose of supervision they are either old teachers or young graduates who are continuing their studies in Universities or other advanced institutions. From what I have seen I do not consider the arrangement satisfactory. The supervising staff of a French *Lycée* does not wield the same influence and cannot mould and shape the character of the boys in the same manner as the teacher or house master of an English Public School.

SECTION 6

Universities and Higher Education

The Paris University is the oldest University in France. It was founded by Robert de Sorbon in the year 1303 as a Theological University and is often called the Sorbonne after the name of its founder. Students in earlier days resided in hostels called *Hospitia*. There were different houses for students of different nationalities. The idea was taken from the East, an example of which could be found in the University of El Azhar before its re-organisation. Students from different countries resided in separate houses under a professor belonging to the same country. Charitable persons subsequently established houses for the residence of poor students. These houses were called Colleges. They were residential quarters for students who lived there under strict supervision. They received assistance in their lessons—which we would now call tutorial guidance—but instruction was provided by the Universities and not by Colleges which were simply halls of residence.* This idea of a University with halls of residence only for tutorial guidance has after two centuries been developed again in connection with Queen's University by Sir Michael Sadler's Commission.

Napoleon I entirely overhauled the educational system of France in 1806 and divided the country into seventeen *Académies* or Provinces, each with a University at its headquarters. The Rector of the University was

given the control of Primary and Secondary education Napoléon further planned a Higher University at the top of these seventeen Universities for purposes of research and advanced instruction and gave it the name of *Université de France*. This scheme of a Super-University was not matured, but its nucleus, the *Collège de France*, where lectures on higher branches of learning are delivered and the teaching of which is co-ordinated with the instruction of the Paris University or the *Sorbonne*, still exists.

Collège de France —The Collège de France was first established in 1530 by Francis I. Its primary object is research and study of the higher branches of science and arts. The lectures are free and open to all. It does not prepare students for any examination, and the Professors have free choice in instruction. The number of Professorships is not determined by the subjects of study; a man of eminence in any subject may be invited by the Minister to accept a Professorship in the Collège, which is considered a great honour and distinction. The management of the Collège is vested in a Committee consisting of all the Professors of the University. It has an Executive Committee of three persons elected by the Professors.

Administration —The administration of the Universities of France is in the hands of a Council consisting of the Rector, the Deans of Faculties, two representatives of each Faculty, the Principals of the Training and Medical Colleges and three outsiders co-opted by the Council itself. According to the *Décret* of 23rd July, 1922, the Council should also have representatives of students elected by the student community, but they attend only when the Council is deliberating on students' welfare. They are like the S. R. C.⁹ of the Scottish Universities, with this difference that they are not elected for one definite purpose.

Teaching Staff —The teaching staff of the Universities consists of (1) *Professeurs titulaires*, (2) *Professeurs sans chaire*, i.e., Professors without fixed chairs, (3) Lec-

⁹ See Chap. I, Sec. 11

turers or *Chargés de cours* and (1) Demonstrator and Assistants called *Maîtres de Conférences*. Professors are appointed by the President of the Republic on the recommendation of a Sub-Committee of the Superior Council of Public Instruction and the other members of the staff are appointed by the Minister. The Rectors are appointed by the President of the Republic on the recommendation of the Minister; the Deans of the Faculties are appointed by the Minister. The Deans of the Faculties of Law and Medicine are Principals of the Colleges of Law and Medicine respectively. The possession of the degree of Doctorate is a necessary condition for appointment as Rector and as Professors of every grade. The University Council, which possesses full autonomy in academic, financial and administrative matters, has absolutely no hand in the appointment of the teaching staff.

Admission.—The lectures in the University are free and open to all. They are attended, as in the Medieval Universities of the East, by *bona fide* students, by casual hearers, and sometimes even by persons who have no interest in the subject. Persons desiring to take degrees or diplomas should get themselves matriculated as *bona fide* students. They are then entitled to use the University libraries and the laboratories, and to attend the seminar, *colloquium* and evening classes, which are private. *Bona fide* students alone can appear in the University examinations.

Every candidate for admission must have passed the *Baccalaureat* or the final examination of the *lycées*; but by the *Décrets* of 1925 and 1926 exemptions can be given by Rectors of the Universities in certain cases. Students who have passed the *Breret supérieur* (the final examination of the Primary Normal Schools) or the *Certificat d'Aptitude à l'enseignement secondaire des jeunes filles* (the final examination of the Girls' Schools) are taken as having passed an examination equivalent to the *Baccalaureat*. Exemption is also given to teachers of the secondary and professional schools even if they are teaching lower classes and also to students who have gone through the courses of professional and technical schools. Exemptions are given on easy conditions, and

a keen student possessing sufficient intelligence is never unable to receive the benefits of University education. But no exemption is allowed for admission to the Faculty of Medicine.

Foreign students can get exemption from the *Baccalauréat* if they have passed an equivalent examination in the Universities of their own country. The conditions of admission are not stringent in the case of foreign students. No maximum limit is fixed for admission, and the question of 'No accommodation,' so familiar to candidates for admission in the British Universities, does not arise. There is no Admission Committee; the filling up of certain forms and payment of fees at the office is all that is required for admission.

The number of students in the University of Paris alone is 25,123,¹⁰ of whom 5,737 are foreigners. The number of Indian students is about 30. French Universities grant the privilege of affiliation to certain foreign Universities. Calcutta, Bombay, Madras and Mysore are at present the only four Indian Universities on the affiliation list. Even of these four Universities, only the B.Sc. degrees are recognised. Other Indian Universities have not so far applied for recognition.

Students are admitted each year between 1st and 15th November and again between 1st and 15th March. The admission fee is ten shillings and the library fee is seven shillings. No monthly fees are charged. Students belonging to a family having three or more children, who are alive or have died in the cause of France, are exempted wholly or partially from tuition and examination fees.

Degrees — French Universities hold examinations at regular intervals, but they do not confer titular degrees except the degree of Doctorate.

1. The first examination, held after one year's study, is called *Certificat d'études supérieures* or Certificate of Superior Study. This examination is held on a fixed syllabus. Students can appear in this examination a year after their matriculation.

¹⁰ The students are distributed in the different faculties as follows — Law 9,265 (women 878), Medicine 5,461 (women 897), Science 3,891 (women 675), Arts or Letters 5,201 (women 2,561), Pharmacy 1,107 (women 410).

No official statement is available about the number of Indian students.

2 *Licence* is the second examination corresponding to our B.A. degree. The *Licence* is awarded to a student who has obtained three *Certificats des études supérieures* in three different branches of the subject recognised by the faculty. Students take their *Licence* three years after their matriculation.

3 *Diplomas d'études supérieures* or Diploma of Higher Study is awarded on a thesis followed by an oral test. No condition of residence is imposed.

4 The degree of Doctorate in Arts, Science or Law, the most important academic distinction, is a necessary qualification for all higher posts in the Education Department. It is awarded to a student two years after he has received the certificate of *Licence* provided he produces two theses. In the case of Doctors of Letters, one thesis should be in French and the other in a classical or foreign language.

5 French Universities have instituted a special degree called *Doctorat Universita* for the benefit of foreigners. It corresponds to the new Ph.D. degree of the English Universities and is awarded to students who have studied in foreign Universities. No condition of residence is imposed and the degree is awarded on the result of a thesis only. For purposes of employment in the educational service in France, however, this degree is not considered equivalent to D.Sc. or D.Litt. obtained two years after the certificate of *Licence*.

Certificat d'assiduité or Certificate of Diligence is really a transfer certificate and is awarded to every student without payment of any fee, if he leaves the University at any stage. Every student, as in Germany, gets a pass book in which are entered the courses of studies he has attended and the examinations he has passed.

6 The degree of Doctor of Engineering is also awarded by several Universities. The candidates must possess a degree or diploma of Engineering from some University or Engineering College and work for two years in the University laboratory, after which he can submit a thesis which is sent to a jury consisting of three persons for approval. Every University has faculties of

Science and Arts, some have a Faculty of Medicine and some Faculties of Law. Strassburg is the only University with a Faculty of Theology. Most Universities provide teaching in applied sciences, and the University of Paris has always had the degree of Doctor of Engineering.

The course of instruction normally takes five years for the degree of Doctorate. In the Faculties of Science and Letters, students usually take three years for the diploma of *Licence* and pass three examinations for the three Certificates of Superior Study, one at the end of each year. Two additional years are required for the degree of Doctorate. In the Faculty of Medicine, one examination is held at the end of each of the five years. In addition to these five annual examinations, students are required to pass three hospital examinations and to write a thesis. All examinations include oral and written tests. Besides the regular courses of instruction, special courses in medicine are also delivered for advanced students, who have obtained medical degrees in France or Foreign Universities. These medical courses are called *Cours complémentaire*, *Cours de perfectionnement* and *Cours de vacances*.

Unlike England, higher instruction is not concentrated in the Universities. Institutions of different types are scattered all over the country which provide teaching in special subjects and give their own diplomas. These diplomas are partially recognised by the Universities as substitutes for their own examinations. The higher institutions in France are not co-ordinated, and the selection of studies puzzles every foreigner. Fortunately the Government has provided great facilities by establishing a number of enquiry offices which supply the necessary information to foreign students. Details are also given in the Handbook for Students, issued free by the Information Bureau of the Universities.¹¹

I understand the Society of Indian Students in France¹² is contemplating the publication in English of a book, similar to the Handbook for Indian Students pub-

11 Bureau de l'enseignement Sorbonne, Paris (V)

12 The address of the Society is 15 Rue de Sommerrard, Paris (V)

lished in England by the High Commissioner for India. Several books have been written in French for the benefit of foreign students: they give detailed descriptions of all the Universities and other institutions for higher studies which are arranged both geographically and according to subjects.¹³ Some of these Institutes for higher instruction are maintained by the State and some by private bodies. The State has imposed certain restrictions on all such institutions. They must all have a committee of management consisting of at least three members and promise (a) to send to the Minister every year a list of the staff and a progress report of the institution and (b) to allow the school to be inspected at all times by a person appointed by the Minister. Such institutions are not allowed to assume the name of the University or award degrees or diplomas bearing the same title as those awarded by State Universities. The Rector of the University or the District Magistrate has a right to close temporarily or permanently any institution which in his opinion is imparting instruction against morality or against the law of the country or which is likely to create a serious disturbance. The institution, however, has a right of appeal to the Superior Council of Public Instruction. In the case of medical instruction the permission of the Council of Medical Education is also necessary for opening a private institution.¹⁴

The most important of the institutes for advanced study are the National Museum for the Teaching of Natural History, the School of Oriental Learning, the School of Geography, the School of Economics and International Law, the College of Sociology, Institute Pasteur, Commercial College, the Technical School for Roads and Buildings, the School for the Training of Librarians, and the School for Training Superintendents of Business.

13. The second and the third part of *L'Enseignement en France* by C. Richard I. written on the lines of the *Handbook for Indian Students*. Excellent account of the Institution in Paris is given in *Université de Paris* *Levet de l'étudiant* 1927-28.

The third volume of *Minerva* may also be consulted. It is in German.

14. *La Liberté de l'enseignement supérieur* by C. Richard p. 14.

In addition to these institutes, which provide instruction in one special subject, there are fully developed boarding institutions maintained entirely by the State, such as the *Ecole Polytechnique*, the *Ecole Normale Supérieure*, the *Ecole Coloniale*, and the *Institute Nationale Agronomique* which will be described later.

Students' Societies — The most important of the students' societies is the *Association Generale des Etudiants*. This Students' Union has a Library containing more than 40,000 books, and subscribes for over 200 journals and periodicals. It has its own restaurant, where meals are provided at reduced rates. Facilities are provided to the members for the purchase of books, and reservation of seats at theatres and other places of amusements at reduced rates. The Union also provides medical aid free of charge and lends money to the members. It has a branch for the provision of outdoor games.

The *Societe des amis de l'Université de Paris* arranges special lectures for foreigners. It gives loans and bursaries to poor students. There are also societies of a religious character, which provide residential accommodation to students of the same religious persuasion. Students coming from a foreign country have also a society of their own. Indian Students have an Association of their own at 15, Rue de Sommeville, Paris (V). It has undertaken to supply necessary information to Indian students desiring to go to France for further study.

Ecole Polytechnique — The *Ecole Polytechnique* is maintained by the War Office, and prepares military engineers, including artillery and marine officers. It has a two years' course, and admits 200 students every year. The candidates for admission are selected by the Minister of War¹⁵ on the result of an examination conducted in the same manner as other general examinations. The examination is held at twenty-one different centres, and an

¹⁵ The present Minister of War is M. Borel who was (and is still) Professor of Mathematics. In England also Lord Haldane, who was a psychologist and educationist, held the portfolio of the War Office. The President of Czechoslovakia was a Professor of Philosophy, and Mussolini was an assistant teacher in a village school.

Examination Board is appointed by the Minister of War for each centre. The candidates may not have passed any examination but those who have already passed the *Baccalauréat* get 15 points to their credit out of a possible total of 130 points of which 51 are allotted for written work, 76 for oral test and 3 for physical fitness.

Foreigners are admitted free to this school if they are recommended by the French Consul in their country or the Consul of their country in France. Their admission examination is also different. Details may be obtained from the official programme of the *École Polytechnique*.

SECTION 7

Agricultural Education

Agricultural education in France was reorganised by the law of August 2, 1918 and schools of various grades were established providing part-time and whole-time teaching for boys and girls. France is an agricultural country and the French have a great reputation for gardening and fruit growing.

No minimum qualification for admission to agricultural institutions is fixed and candidates are not required to pass any public examination for admission. Foreigners are admitted freely in all the agricultural institutions. The fees are comparatively low and a boarder is required to pay £25 a year for tuition, board and lodging during academic terms. The courses extend over a period of two years. Students in higher colleges must be over seventeen years of age.

French agricultural schools may be divided into four grades —

(1) Institutions of college status where higher instruction is imparted and research work done. There are four such institutions, which specialise in different subjects and provide instruction in agricultural economics and agricultural engineering. These four schools are—

- (a) *Institute Nationale Agronomique* in Paris, which specialises in Agricultural Economy
- (b) *École Nationale des Faux et Forêt* at Nancy, which specialises in Forestry

- (c) *Ecole des Haras du Pin* at Orne, which trains officers for the administration of agricultural department. The admission is in the hands of the Minister of Agriculture.
- (d) *Ecole Supérieure du genre Rural* at Paris which specialises in Agricultural Engineering and includes the study of Mathematics and Physics.

Besides these four schools, which specialise in particular directions, there are other agricultural colleges which give general instruction in the theory and practice of Agriculture. They are called *Ecoles Nationales d'Agriculture*. There are three such schools at Grignon, Montpellier and Rennes. These schools do not require any minimum qualification for admission. Foreigners may be admitted free at the discretion of the Minister of Agriculture. The course of instruction extends over a period of two years, at the end of which a diploma is awarded to successful candidates. The college at Montpellier¹⁶ is a residential college. A special institute for research work in agricultural chemistry and other allied subjects is organised in connection with the University of Paris, and only advanced students are admitted to it at the discretion of the Director.¹⁷

(2) *Ecoles d'Agriculture*, which provide practical education for the sons of farmers, are scattered all over the country, and admit boys and girls from Primary schools. The education is less scientific than practical.

(3) Part-time winter schools, in which the course is limited to two winters of three or four months each. They are sometimes attached to higher schools of agriculture, Lycées, colleges or advanced Primary schools.

(4) Continuation Schools for agriculture, which take pupils over thirteen years of age. The course extends over four years of 150 hours per year. There exist

¹⁶ Montpellier has a good University. Sir Eric Geddes who is a Professor in the University has suggested the establishment of a hostel for Indian Students.

¹⁷ Station Central de Recherches, 16 Rue de l'estrépade, Paris.

also farm schools and schools for apprenticeship in agriculture.

In 1920 the French Parliament (National Assembly) authorised rural schools to add a two-year course to their programme. It was considered necessary that instruction should be imparted by regular teachers. To meet this demand the teaching of agriculture in the Normal Schools has been reinforced. A special diploma is awarded for passing this examination. Teachers holding this agricultural diploma are entitled to an additional pay of £1 per annum. A committee of patronage is also organised to survey the work and to encourage attendance in Normal Schools and in the two-year continuation classes.

SECTION 8

Training of Teachers

In France teachers for Primary schools and for Secondary schools are trained in different institutions known respectively as *École Normale Primaire* and *École Normale Supérieure*. These training colleges substantially differ from the training colleges in other countries in two respects —

(1) After leaving the Normal schools the students are qualified to follow professions other than the teaching profession.

(2) More attention is paid to the subject matter than to the methods of teaching.

The *Écoles Normales Primaires* (or Normal Schools) are not meant exclusively for teachers. They do not confine themselves to the theory and practice of education only but impart general instruction also. These schools have a three-year course and teach all subjects of general study including technical and professional subjects. The Theory of Education including Psychology, is one of the subjects of study in the Normal schools. The other subjects are French, a second European Language, History, Geography and Mathematics. Physical and Natural Science, Drawing, Music and Singing, Gymnastics, Handicraft, and Sociology. Land Surveying, Levelling, and Agriculture are optional. In addition to

the six subjects for general study, students are also required to take up one or two industrial and professional subjects. Different institutions specialise in different subjects, but they all have commercial and engineering branches. Each institution has a practising school, *Ecole Annexe*, which is always under the Director of the Normal school. The Minister, after considering the result of the final examination of the superior Primary schools, selects candidates for admission to Normal schools. The schools have hostels within their compound. Most of the students, both boarders and day-scholars, are admitted free. They do not pay even for board and lodging. Some of the Normal schools have special classes and prepare students for *Baccalauréat* examination. At the end of the Normal school course, students sit for a public examination called *Brevet Supérieur*, which not only qualifies a person to become a teacher in a Primary school, but also serves as a passport to clerical and other professions. It also qualifies him for joining a University under certain conditions.

In each Department there are at least two Normal schools, one for boys and the other for girls. These schools are directly under the Rector of the Academy, and the inspection is done by the Academy Inspector of the Department in which the school is situated. The State pays all the expenses of the school, including the living expenses of the pupils.

France has made another unique provision for the training of teachers for the Normal Schools. There are two such institutions, one at St. Cloud (for men) and the other at Fontenoy-aux-Roses (for women).

Military Training—In the year 1921 military training was added to the curriculum of the Normal schools. At first it was made obligatory, though it has now been made voluntary, yet the pressure put upon the students for enrolment amounts almost to compulsion. Two hours a week are given to physical education as before, one hour to theoretical and one to practical military training, i.e., marches and exercises in the use of

machine guns. There have been many protests against the innovation. It is said that the dignity and tone of Normal schools are being lowered by the use of the language introduced by military men who sometimes forget that they are in the school room and not in the barracks.

Écoles Normales Supérieures—There are two *Écoles Normales Supérieures* one for boys and the other for girls. They prepare teachers for Secondary schools. The first *École Normale Supérieure* was founded by Napoleon in 1808 and was affiliated to the University of Paris in 1903. Most of the students are boarders. The Minister for Public Instruction fixes the number of students to be admitted every year on the result of an admission examination which is the same as the scholarship examination of a University. The idea of a competitive examination by which a candidate who obtains six 1071 marks is considered necessarily more eligible for admission in preference to one who obtains only 1070 marks is foreign to the French mode of selection. Examinations are always conducted by different Examination Commissions who submit their results to the Minister. The Minister in the end makes his selection from the successful candidates. Foreigners can also join this school but they should apply either through the French Consul in their country or their own Consul in France. The teaching is divided into two sections Arts and Science, and students under the advice of their tutors may attend the lectures of any professor in the University. The students are eligible for University degrees and diplomas, *Licence* or *Doctorate*. Every student from the training college does not necessarily become a school master, though a large number of them do so.

Every candidate for admission must have passed the *Baccalaureat* which is a necessary condition for admission to a University in every Faculty. The Normal school is very rich in its library and possesses 275 000 books.¹¹

SECTION 9

Salaries

The salaries of the Educational Service in France are comparatively lower than those of the corresponding officers in England or Germany. Living in France is slightly cheaper than in England. I have no official figures, but from personal experience I can say that the cost of living in France is 70 per cent of that in England, which means that a person spending £70 in France will require £100 to live with equal comfort in England.

The Vice-Chancellor (*Recteur*) of the University, who is also responsible for Primary and Secondary education in his circle, gets £400 a year. The Chief Inspector of the Academy gets £350 a year. In Secondary schools, the pay of the Principal (*Proviseur*) is £375 a year, the average salary of the head of a department, who holds the degree of Doctorate, is £300, while junior professors who do not possess the doctor's degree, get £200 a year. The assistants get £80 per annum.¹⁹

The low salaries in France may be judged by the fact that the Minister of Education gets about £675 a year and the four Directors under him get £350 each. The Educational Service is a very low-paid one on account of the fact that the French *Franc* has depreciated to one-fifth of its pre-War value and the salaries of educational officers have not been increased in the same proportion. The tuition fees paid by the students in all grades of institutions have always been comparatively low, and on account of the depreciation of the French *Franc* and the modest style of French living, the total expense of foreign students reading in French institutions is about half of those reading in similar institutions in England. In agricultural institutions the annual fee for an academic year with board and lodging is £25 only. The annual boarding and tuition fee in a French Lycée is only £40 excluding vacation expenses.

¹⁹ £90 per annum = Rupees 100 per month (approximately)

SECTION 10

French System of Examinations

The system of examination in France is very different from that of England and Germany. Public examinations are held at the end of every stage of public instruction—*Certificat des Etudes* at the end of compulsory Primary education *Brevet d'enseignement primaire supérieur* at the end of the Upper Primary education *Brevet supérieur* at the end of Normal school education which is the highest stage of free education and the *Baccalauréat* at the end of the Secondary education. The *Baccalauréat* examination is held in two parts. The Matriculation or final examination of Girls' Schools is not called *Baccalauréat* but is known as Diploma of the Secondary Education for Girls. The Universities also hold a series of examinations which are described in another section. The rules and regulations under which the various examinations are held are published by the Minister of Public Instruction in minute detail. These examinations differ in their subject-matter but the general system of conducting them is the same.

All public examinations are held twice a year, the first at the end of the academic session in June or July and the second just before the beginning of the next session in October. In the second examination only those candidates are permitted to appear who failed in the first examination or who for cogent reasons could not appear in the July examination. The results are announced within a fortnight from the first day of the examination. The examination is both written and oral, the oral part being twice as important as the written part—this is apparent from the points allotted to each subject. Successful candidates get their certificates from the Rector or the Minister of Education. The teachers' marks made during the last three years are also duly considered by the examiners. Every candidate for *Certificat* is required to write an essay on a subject of his own choice and if his essay comes up to a certain standard of merit an entry to that effect is made in his certificate. Candidates are required to write on one of the following

subjects —(A) Boys—agriculture, application of science to agriculture, application of science to industry or maritime education, (B) Girls—education of children, hygiene, domestic economy, and house management

The number of candidates in every examination is always very large. In the Matriculation (*i.e.*, *Baccalauréat*), the number of students who are examined about the same time in written or oral work is over 30,000, the candidates being scattered all over France, and in Algeria, Tunis, Morocco, Cairo, Beirut, and Constantinople. The number of candidates in the *Certificat des Etudes* examination is over one hundred thousand. The number is so large that the English System of examinations would break down. The English people are always terrified by numbers because their system of instruction and examination breaks down with the increase of numbers. No English University can dream of admitting 25,000 students—a number accommodated in the Paris University. 1,500 is the normal number of students in a High School or *Lycée*. No examination is, nor can be, held in England for all children at the end of the compulsory education stage. Head Masters of Primary schools grant certificates of diligent study, if they are asked for.

The French System has the following advantages —

- 1 It provides no room for cram-work, which is indispensable in the English System. Even for the paper on general knowledge in the Scholarship examination held at the age of eleven in England, boys and girls cram up questions and answers from books written for that purpose.

- 2 Results are announced within a fortnight, and the quarter of a year which students waste in India under the English System of examination is avoided.

- 3 Students who fail in an examination can try a second time after the long vacation and before the beginning of the next academic year.

- 4 In every subject, and in all examinations, candidates are examined both orally and in written work.

- 5 The system does not break down with numbers. It is capable of unlimited extension and leaves no room for the leakage of questions.

6 The marking is not left to the idiosyncracies of a single individual

Examinations in France are not conducted by one Central authority Printed papers are not sent to each centre of examination, as in the English System The Rector of each University nominates one Examination Board in his Province (or *Académie*) for the *Baccalauréat* Examination and one Board in each Department for each of the other examinations If the number of candidates is large in any *académie* or *department* the Rector nominates several Boards The Examination Boards for Morocco are nominated by the Rector of the Bordeaux University, and those for foreign countries are appointed by the President of the French Republic Very great care is exercised in the selection of the President of the Board by reason of the extraordinary importance of his position Most of the members of the Examination Board are local teachers who are not debarred from examining their own pupils

The constitution of the Examination Boards is different for the various examinations the details of which are laid down by the Minister and published in a book called *Programmes of the Examinations* The Examination Board appoints several examination committees, called *Juries* for conducting the examinations Written work is always examined by two examiners Answer papers are not sent out to the examiners the examiners come to the Centre and examine the answer papers (which are not books) in rooms specially provided for the purpose

The oral examination is open to the public but not the written examination The written examination is not based on text books but aims at testing the general fitness of candidates The use of dictionaries is allowed in the written examinations in languages In the oral examination three to five members of the Jury sit on one side of the table, and the same number of candidates on the other side Practical examinations in Science are usually conducted in the schools themselves In the written examination, each paper consists of three questions, of which students are required to answer only one

The President of the Examination Board brings the question-papers in a sealed envelope, and the questions are dictated to the candidates in the examination hall. The answers of the candidates are not kept confidential. The questions in each *académie* are different, but the same questions are given at different centres of the same *académie*. The points allotted to written and oral examinations have already been given in Section 4, from which it will be clear that the oral test is considered to be more important than the written examination.

It is outside the scope of the present work to mention other details connected with examinations, such as application forms, fees, remunerations, arrangement of seats, and punishment for malpractices, which are officially published. The secrecy and delay of the British System have no room in the French System.

SECTION 11

Italian Modifications of the French System of Examinations

Before the War, the final examination of the Italian schools was conducted by the Head Masters and the class teachers. Consequently, it was not a full-dress examination, but only a test of general fitness. The Universities sometimes held summary examinations of their own for admission. This did not differ from the system which prevails in Germany and its success depended on the ability of the Head Masters and the class teachers. The Italians found it unsatisfactory, and after the War they adopted the French System in a modified form.

Italy is not divided like France into *Académies* or Provinces with Universities at their headquarters. The Minister of Education naturally takes the place of the Rectors of the *académies* and all Examination Commissions are nominated by him. Teachers are eligible for membership of Commissions, but they never examine candidates in schools situated in their own towns. The members of each Commission are appointed for one year.

and conduct both the June and the October examination. The Commission for conducting the *Baccalaureat*, which is called the *Maturita Examen* in Italy, consists of five persons of whom at least one should be a University professor, and one a Head Master of a High School the rest being teachers or inspectors. The University professor is always the Chairman of the Commission.

About 10,000 candidates appear every year in this *Maturita Examination* and are examined by sixty different Commissions. Different countries hold different views about the appointment of teachers as examiners. In Germany teachers of High Schools must necessarily examine the students whom they teach in France they may or may not and in Italy they must not examine their own students although they can examine students of other schools. In India we go a step further. Professors when acting as examiners are not expected to teach during the year the subject in which they act as examiners while High School teachers (excluding Head Masters) are in practice debarred from acting as examiners in the High School or Matriculation Examination. Written examinations are held on the same date in all the Italian schools and the same papers are sent (as in England) in sealed envelopes to the different centres by the Ministry of Education. Cases of malpractices in examinations are rare and are dealt with by the Examination Commission. The answer books of the candidates are examined by the members of the Commission themselves at the examination centre, and they usually take a week or ten days to examine them. No marks are actually given but the examiners note down their personal opinion, which is considered at the time of the oral test. All the five members of the Examination Commission are present at the oral test and only one candidate is examined at a time questions being put by all the examiners in turn. The results are declared immediately after the oral test. Students who fail in one or two subjects are permitted to try again in those subjects in the October examination. About 50 per cent of the students pass in the first examination, and about 35 per cent are permitted to appear

a second time in October when over half of them generally pass. The combined percentage of passes in both these examinations, in the *Maturita Examen*, is thus about 70 per cent. This is the only public examination held in the school course. It entitles the successful candidate to join a University. The schools may institute their own tests for purposes of admission.

It is not intended to describe the Italian System of education in detail, but a few outstanding features may be noticed owing to their similarity to Indian conditions. Pre-University or school education is divided into three stages. Education in Italy is compulsory for all boys and girls up to the age of fourteen.

(1) *Primary Stage* — All boys and girls up to the age of eleven attend the Primary schools which are the same for all and are similar to the Unitary schools of Germany. But unlike Germany boys are also permitted to study in Private schools.

(2) *Middle School Stage* — The courses in this stage extend over a period of five years and boys and girls are admitted by each school after a special test of its own. These schools are called *Gymnasium*. Those who cannot secure admission to these *Gymnasias* on account of poverty or for other reasons, continue their education for three years more in higher Primary schools, which correspond to Central schools in England. Education here is not technical, but has a technical bias.

(3) *High School Stage* — The courses in this stage extend over a period of three years. They correspond to the Intermediate Colleges in India and are called *Lycées*. Some of these *Lycées* are connected with the *Gymnasias*, while others are organised as independent institutions.

Each *Lycée* conducts its own admission examination. Those who fail to join a *Lycée* may either enter life or join a technical or trade school. The final examination of *Lycées* is the *Maturita Examen*. It qualifies the candidate to join a University and other high institutions of University status.

The instruction in the University is also according to the class system, and the students, as in Indian Universities, are divided into first, second, third and fourth

year classes. In the technical college success in the annual examination is necessary for promotion from class to class, but in the Universities students are promoted as a matter of course after each year. They are required to pass examinations in certain subjects which they may do any time during their University study. The examinations are held twice a year.

SECTION 12

Education in French Colonies

Algeria is the oldest Colony of France, but it has long been included among the French provinces and is governed in the same way as any other province. It has a University and three departments controlled by the French Minister of Education. Tunis, Morocco, and Syria are protectorates under the Foreign Office, and follow their indigenous system of education which is very similar to that of Egypt. The other colonies are under the Colonial Office, in which a special education department has been organised. The system of education in all French colonies except those in India, is organised on the French model. A few of the colonies have Universities, but most of them have professional colleges, and all of them have *Lycées*. On October 10th, 1920, M. Albert Sarraut wrote to all the Governors asking them to take special interest in education and to spend more money on that head? —

The end of the War has necessitated the framing of fresh rules and the exercising of special care. This for two reasons. In the first place the colonies have given us great help and we should do good by providing education for those who fought for us. In the second place the economic condition after the War has made us depend more and more on the colonies, to whom we should impart more extensive and better education.

The number of students and schools and the quality of education since the War has greatly advanced in all the colonies, as shown in the report prepared by M. Crouzet. In the French colonies in India the Indian

⁷⁰ Report prepared by the Education Director of the Colonies. M. Crouzet, p. 2.

System of education is followed and students are prepared for the examinations of the Calcutta and the Madras University.

In the protectorate of Tunis, the schools are of two types. There are, in the first place, Arabic schools in which instruction is imparted and examinations are held in the Arabic language. At the end of the school course a certificate of *Brevet élémentaire* is awarded. The other schools are like the French schools in which both Arabic and French are taught. Tunis has several Lycées. The *College Siddiqui* in Tunis deserves special mention. It teaches Muslim Law, Rhetoric and Grammar along with French, Geography and Physical Science. The final examination of the *College Siddiqui* entitles a candidate to join the top class of a Lycée and pass the *Baccalauréat* examination in one year. The library is very rich in Arabic manuscripts. Instruction in Oriental colleges is not segregated from the general programme of education; students of the *College Siddiqui* and other Arabic institutions can join a Lycée and other French institutions at certain definite stages. Tunis has no University, but has several professional and technical colleges, Lycées for boys and girls, three Agricultural Colleges and 383 Primary and 14 Kindergarten Schools.

The educational organisation of Algeria is very much like that of France, this is due to the fact that Algeria is governed as a French Province. It is a part of France in the same way as Aden is a part of the Bombay Presidency. It has a University with the Faculties of Law, Medicine and Pharmacy, Science, and Arts. The teachers are both French and Algerians. The courses of instruction and method of examination are the same as in other French Universities. Special instruction is provided in Arabic language and literature and the 'Barber dialects,' and special diplomas are awarded for them. In Algeria there is a college on the lines of the Calcutta Madrassah where instruction is imparted in Muslim Law and Theology, and Arabic language and literature, through the medium of Arabic. The final examination of this college qualifies a candidate to certain posts in Public Administration. The education and final

examinations of such Oriental colleges have not only an intellectual but a material value also. Algeria has several agricultural schools and colleges which admit students for full time and part time courses. Students who have passed the *Baccalauréat* or the *Brevet supérieur* are eligible for admission, but the Principal is also authorised to admit students who have not passed a public examination but possess sufficient qualifications and are likely to profit by their study. Passing a public examination is not considered the only test of fitness. Algeria has also a Commercial College and several Commercial Schools.

SECTION 13

The Training of Colonial Officers

The method of recruitment of officers for colonial administration in France is somewhat different from the English method. France has a special school called the *Ecole Coloniale* for the training of such officers. There is also a special school for the study of agricultural conditions and problems in the French colonies. This school is called *Institut National d'Agronomie Coloniale* at Nogent-sur-Marne. It admits foreign students also. Its teaching is specialised to suit the requirements of the French colonies.

L'Ecole Coloniale—This Colonial Institute was established in 1889 with the explicit object of training officers for the administration of the colonies. Every Frenchman and every person belonging to a French colony is eligible for admission. The school has three sections for—

- (1) training for administrative posts,
- (2) training for magisterial posts and
- (3) training for administrative work in the North African colonies, namely, Morocco, Tunis and Algeria.

The number of admissions in each section is determined from time to time by the Minister for Colonies. The courses of instruction extend over a period of two years. The admission is made on the result of an exami-

nation, both written and oral, under the supervision of the Colonial Minister. The method of examination is the same as that followed in other public examinations. An examining board and juries are nominated by the Colonial Minister. The written work is examined by two examiners and the final selection is made by the Council. The written examination is not on text-books. Candidates, who have passed the examinations of the higher colleges, get special consideration. Military service is compulsory for all candidates. For syllabus of studies and other details, reference may be made to the printed programme.²¹ The courses of instruction include the French, English and German languages, History of the Colonies, Geography, Geology, Anatomy and Physiology of Plants and Animals, History of French and Foreign Colonisation, Colonial Products, Colonial Law, Muslim Law, Arabic Dialects spoken in the French Colonies, and Topographical and General Conditions of the French Colonies.

SECTION 14

New Movements

The Great War gave a powerful stimulus to democratic ideas in France as in every other country, and people began to forget all social distinctions. The need for unity was keenly felt everywhere. The new democratic movement had its origin in the Army itself. A group of young officers contributed a series of articles to the well-known weekly *L'Opinion*, and shortly afterwards formed a society under the name of the *Compagnons*—a name borrowed from the *Guilds* of the Middle Ages. University professors and other persons also joined the society. The *Compagnons* started the theory of Unitary schools or *Ecoles Uniques*. To divide the French nation from the beginning into two classes, and keep them for ever apart owing to their difference in education was, according to them, contrary to commonsense.

²¹ *Programme des conditions d'admission à l'Ecole Coloniale*, printed by Librairie Vurbert, Paris.

justice and national interest. There were, therefore, to be the same teachers and the same examinations for all.²²

To achieve this end it was by no means necessary to have all the common schools of a uniform type throughout the country. Local needs and school environments had to be taken into consideration. The *Compagnons* outlined a general programme of school education which was adopted with modification by Switzerland, England and Germany, but not by France. Common education according to the *Compagnons* should stop at the age of eleven or twelve. On leaving the primary schools children are to be directed to diverse branches of instruction according to their aptitude, as the aptitude of the children ought to be the only guide for their admission into secondary schools, and the influence of wealth should not be considered at all. All forms of education should be imparted free. But how is the aptitude of a child to be determined? The *Compagnons* condemn the examination system, but they admit that up to this time no satisfactory means have been devised to replace it. The Binet and other intelligence tests may be used. The notebooks of the pupils may be consulted and the opinion of teachers taken into account. All these methods cannot altogether dispense with examinations at this stage. The *Compagnons* plan was put before the Assembly by two deputies in the shape of a Bill which contemplated the abolition of preparatory classes attached to Lycees and Colleges, and to have Primary Schools for rich and poor alike.

M. Ducas presented another Bill in 1921 requiring all children after leaving the Elementary school to continue their instruction in professional subjects up to the end of their eighteenth year. The courses required 300 hours annually, apportioned according to the Vivanti project of 1917, namely—

General education	50 hours
Vocational education	150 hours
Physical education	100 hours
Total	300 hours annually

²² *The New Education in Europe* by Roman

The Ducos Bill contemplated technical education in seven different sections, *viz*, Industrial, Commercial, Agricultural, Domestic, Physical, General and Nautical. Each section was to have a distinct Board of Control chosen from persons active in these respective lines of work.

The *Compagnons* plan, and the Viviani and the Ducos project were discussed for several years in France, but the champions of culture and classics, who had long been silent, ultimately came out, and advocated with success the restoration of the study of Classics on account of its cultural value. The plan of the *Compagnons* and the project of Ducos were adopted by Germany with certain modifications. But Germany, in spite of making technical education compulsory for all, kept intact her Gymnasiums devoted to the study of Classics and adopted compulsory technical training for those who do not specialise in cultural subjects. Here, as in many other industrial problems, France has given a lead in putting before the world a brilliant theory of education, which Germany has carried into practice while England is waiting for the theory to be tested by its results.

CHAPTER IV

SYSTEM OF EDUCATION IN INDIA

SECTION 1

Preliminary

The people of India are a conglomeration of many races that came into the country from Central Asia and East Persia. They never had sufficient leisure to fuse themselves into one homogeneous nation as in most countries in the West but kept up their separate cultures, their languages¹ and their customs though of course very much modified by mutual contact. The centre of early civilisation which spread out in all directions—east and west—was according to Nicolas de Khanekoff,² Eastern Iran of which Khwarazm was the central point. Al Biruni, a native of Khwarazm, wrote an early history of the town³ and mentioned the calendar of Khwarazm as the oldest and most perfect. This is also supported by the fact that the Sine Quadrant according to the author of *Al Mulhtar*⁴ was used in Khwarazm for measuring the altitude of the Sun long before the discovery of Trigonometrical functions.

The descendants of the original inhabitants of India are the Bhils and the Gonds of Central India and the Namashudras of Bengal. The Dravidians came first from Central Asia about 4 000 B C and a part of the same race went to the north west of Central Asia. In Poland we find men belonging to the Dravidian stock mixed with other races. They were followed by a race of mixed Dravidians and Sumerians. Later (about 1 300 B C) came the pure Sumerians who settled in

1 Sir George Grierson in his *Linguistic Survey of India* has enumerated 179 different languages and 514 different dialects of India.

2 *Quarterly Review* No. 240 p. 490.

3 This book has not yet been printed.

4 The writer read a paper on Sine Quadrant before Göttingen Mathematical Society on 28th October 1928. It is being printed as an appendix to the *History of Arab Astronomy* in the Allgarh University Series.

Kathiawar They were followed by the Turanians (mentioned in the Avesta as Hunu), who settled down in the Punjab Then came the Aryans about 1,200 and 1,100 B C This is the time when Brahmanic religion and culture came into existence The Aryans were followed by the Saka (Buddha's people), who took possession of almost the whole of Northern India The people that invaded the country next were the Indo-Scythians, who settled down in North-West India, made Kashmere their capital and adopted the Buddhist religion They were followed by the White Huns, who were Zoroastrians and did their best to destroy the Buddhist monasteries and the Buddhist culture Their king, Mihna-Kula, brought Zoroastrian priests with him. The destruction of Buddhism led to the revival of Brahmanic religion and culture which had been all but extinguished a few centuries before by the Buddhists. The Huns were followed by the Arabs, who came into India at the beginning of the eighth century and conquered Sind Still later, Muslim Afghans and Turks, from East Persia and Central Asia, came in quick succession and settled in Northern India Brahmanic and Muslim cultures influenced each other, but both persisted side by side

The British became rulers in the eighteenth century They brought with them a new culture, which was first resisted by the Indians, specially by the Mussalmans, but is being gradually assimilated by the country. The fusion of these different cultures into a common Indian culture is essential for the formation of a homogeneous Indian nation This fusion is now more an educational than a social or political problem

Whenever a country, having a culture of its own, is subdued by a superior foreign culture, it passes through four successive stages of transition (1) It first resists the foreign culture in every way possible and tries to cling to its old, traditional culture (2) It next begins to hate its own culture and attempts to adopt the foreign culture indiscriminately. It happens very often that in a fit of enthusiasm the country adopts the undesirable features of the foreign civilisation with avidity and

abandons the good elements of its own traditions. (3) In the third stage people begin to ponder on the good and bad aspects of the two cultures, an attempt being then made to go back to the old national culture of the country, which is really a signal for halt. (4) A new culture is eventually evolved by the fusion of the two cultures to suit the past history and the present position of the country.

India is mostly in the third stage; the process of fusion has hardly commenced.

SECTION 2

The British System of Education

When the British came into India, a net work of schools and colleges existed in the country. The Primary schools were called *madrasas* and *pathshalas*. The *madrasas* specialised in languages and taught Persian, Muslim theology and a little arithmetic. The *pathshalas* on the other hand specialised in commercial arithmetic including fractional tables, but also provided for the teaching of the Indian vernacular.

These schools had no graded class system; individual and group instruction was given according to the methods in which experiments are now being made in Europe and America. I have described one such school near Berlin in Chapter II, Section 22. The system may have been abused by some of the lazier teachers who left their work to their pupil teachers. A large number of these Primary schools were attached to mosques and temples. Higher instruction was given in Universities and Seminaries. The Universities were either maintained by the State or by special endowments. Seminaries were private institutions run by individual learned men where advanced instruction was given in specialised subjects. Education was entirely free, the scholars being supported by endowments or contributions from rich people. No registers were kept and no attendance was marked. The method of instruction and the system of examination were very similar to those in the German Universities. Students migrated to

different places in order to study under the guidance of specialist-teachers. Credit for the ability of a scholar always went to his teachers. Advanced lectures, as in the French Universities, were open to all. The degree was not granted till the student had studied philosophy, logic, and metaphysics, jurisprudence, language and literature. Theology, medicine, mathematics, history, geography, and astronomy were also taught in some Universities. There were no residential colleges, the students were accommodated in cloisters attached to the mosques and temples, or in the Universities themselves. Instruction in medical sciences and jurisprudence was imparted in these Universities, but before beginning their professional practice, students had to work for several years with practising physicians, called *Tabibs* and *Vards*. The institutions for Muslim Theology, Islamic Culture, and Arabic Language and Literature were quite different from the institutions for Brahmanic Theology, old Indian Culture, and Sanskrit Language and Literature, but the two flourished side by side. Though the subject-matter and the medium of instruction in these two Universities were different, the methods of instruction and examination were the same. Education was of an intensive nature and more attention was paid to thoroughness of training in a few subjects than to a superficial knowledge of a large number of subjects. A few such institutions, which have resisted the temptation of Government grants, are still in existence.

SECTION 3

Advent of British Education

It was not statesmen and administrators but religious reformers, who first asserted that it was the duty of England to communicate her own intellectual and moral ideas to her Indian subjects by means of the English system of education. The advocacy of Charles Grant in 1792 may be taken as the beginning of the English Education Movement in India. His influence secured a grant of £7,500 in 1813, but the money was spent in subsidising institutions of Oriental learning. The first

college for instruction in the English language was the Missionary College established at Serampur in 1818 by Carey, Marshman, and Ward the first University was the Theological University chartered there by the King of Denmark in 1827 Persian was abolished as the Court language in 1814 and it was decided in the following year that English would be the future medium of instruction in high schools and colleges But the Government still continued to assist institutions of Oriental learning and to maintain the Calcutta Madrasah established by Warren Hastings in 1782 and the Sanskrit College founded in 1823

The Despatch of the Court of Directors of the East India Company in 1854 is the starting point of modern system of education in India An Education Department was established in every province and the Universities of Calcutta Madras and Bombay were inaugurated in 1858 on the model of the London University as it then existed Soon afterwards a large number of English schools both Primary and Secondary were established in the country by missionary and private efforts Some of these schools were maintained entirely by voluntary subscriptions while others received grants from the Government The object was to give instruction in the English language and to produce English knowing clerks that were in great demand on account of the change of the Court language These private schools rapidly multiplied in number some of them being very inefficient There was often an unhealthy rivalry among them This unsatisfactory state of affairs led to the appointment of the Hunter Commission of 1881 which recommended a new system for the inspection direction and gradation of the schools The principles laid down by the Hunter Commission were faithfully observed by Government In the field of Primary education alone Government was to regard it as its duty to undertake direct responsibilities for large expenditure wherever necessary In the Secondary education stage it was considered that apart from the maintenance of a single model school in each administrative district Government should take no direct action but merely support local effort The maxi-

imum grant to aided institutions was in no case to exceed one-half of the entire expenditure. In the collegiate field, the existing Government institutions were to be divided into three classes: (1) Presidency Colleges were still to be maintained by Government, (2) some colleges might be advantageously transferred, under adequate guarantees, to 'bodies of native gentlemen', (3) other colleges were to be suppressed altogether unless some one was found to carry them on. Mr. Justice Telang, a member of the Hunter Commission, recorded a minute of dissent in which he said —

"In my judgment the time has now come when mass education must be pushed onward. On the other hand, I hold an equally strong opinion that without higher education, mass education cannot be of much avail, even if it can be secured."

The policy of the Government with reference to secondary and higher education was reiterated by the Government of India in their resolutions, dated 11th March, 1904, and 21st February, 1913. They maintained the necessity of concentrating the direct energies of the State and the bulk of its available resources upon the improvement and expansion of Elementary education and expressed the view that privately managed schools, under suitable bodies, may be encouraged, their efficiency being maintained by Government inspection, recognition, control and grants.

During the same interval (1904-13), there was a fairly rapid growth of public opinion in England with regard to the national importance of Secondary education and the part which the State should take in encouraging it and in guaranteeing its soundness. Opinion in England was influenced by the success of Secondary education in the United States and the European countries under State management. This opinion in England, as described in detail in Chapter I, has now completely changed, but in India the Government is still adhering to the old policy.

University education was outside the terms of reference of the Hunter Commission. Twenty years later, Lord Curzon appointed a Universities Commission, which recommended a common Act for all the Universities, the

settlement of the territorial jurisdiction of each University, the assumption of teaching duties by the Universities, which till then were only examining bodies, strict and systematic inspection of colleges and close attention to the conditions under which students live and work.

The examination for admission into the Universities remained in the hands of the Universities and the Local Governments accepted it as the final examination of the High Schools maintained or recognised by them. The Government of India went one step further. They recognised the University Entrance Examination as a passport to Government service. This at once induced a large number of private candidates, who had not been in any school, to appear in the University Matriculation Examination, not with the object of joining a University but merely in order to obtain a Government post. Failure in examination thus came to mean the ruin of one's prospects in life.

The assumption of teaching functions by the University, which was developed more in Calcutta than elsewhere, upset the previous equilibrium between Universities and colleges. The examination machinery which had been defective from the outset, became clogged on account of the large number of candidates. The present Indian system of examinations is a bad imitation of the English system. Colleges grew in size and residential accommodation for students became scarce. The question was referred to a Commission presided over by Sir Michael Sadler. This Commission recommended—(1) the separation of Intermediate classes from Universities so that boys between the ages of 16 and 18 may be taught in schools and not in University colleges. (2) the gradual replacement of affiliating Universities by teaching and residential Universities. (3) the transfer of the control of the Matriculation and Intermediate Examinations from Universities to special Boards consisting of the representatives of the Universities, Government Education Department and other interests. Soon after the publication of the report the new Government of

India Act came into force in 1921 and the whole situation was very much modified

SECTION 4

Present Organisation

India is divided into thirteen Provinces⁵ and a large number of Indian States⁶. Some Indian States, like Hyderabad, are as large as France, others are so small that the total revenue does not exceed £500 a year. Some Provinces like Delhi, Ajmere and Merwara, the Frontier Province and Baluchistan are administered directly by the Government of India while others have Legislative Councils of their own. The situation is very similar to, though not exactly like that of Germany before the War.

The Central Government has two Chambers. The lower Chamber or the Legislative Assembly, consists of elected as well as nominated members, who are both official and non-official. The elected members are in majority of 105 to 38. The upper Chamber is called the Council of State and its members are also partly elected⁷ and partly nominated. The Council of State does not represent the Provincial Governments as was the case in Germany, but the richer people, who pay a higher tax. It has also a number of members nominated by the Provincial and Central Governments.

There are certain subjects like the Army, Railways, and Post Office, which are directly administered by the Central Government, as in Germany, while other subjects are managed by the Provinces. Rates and taxes are not collected by the Central Government, as in Germany, but by the Provincial Governments, and handed over to the Central Government. The division of income between Provincial and Central Governments is much on the English lines. In India, besides rates

5 Madras, Bombay, Bengal, United Provinces, Punjab, Burma, Bihar and Orissa, Central Provinces and Berar, Assam, North-West Frontier Province, Delhi, Ajmere and Merwara, and Baluchistan.

6 The number of recognised principal States is 166.

7 The qualification of voters depends on superiority in financial position, and not on superiority in age, as in Czechoslovakia.

and taxes there is another source of income—the land revenue including excise. Income tax and customs go to the Central Government, the land revenue to Provincial Governments, and the rates or house taxes to the Municipalities.

In Provincial administration, there is a further division of subjects on the principle of diarchy. Certain Provincial subjects have been transferred to Ministers, who are responsible to the Legislative Councils. These Councils have only negative powers. They can dismiss Ministers by passing votes of censure, they can veto certain items of expenditure, but cannot vote a new expenditure. Provincial subjects not transferred to the Ministers are administered by the Governor assisted by an Executive Council appointed by the King.

Education, with some exceptions, is a transferred subject under a Minister of Education appointed by the Governor from amongst the elected members of the Councils. His Secretary is an administrative officer selected from members of the Indian Civil Service, who has an expert educational adviser called the Director of Public Instruction to assist him. The Director is an expert adviser to the Government and the Legislative Council. He is also a touring officer like the Chief Inspector of Schools, and is in charge of every grade of education. He represents the Government in every University body and also controls the finances and the personnel of the entire Education Department. He is the head of an independent office which is distinct from that of the Minister. The Minister of Education may be a landed magnate or politician and more often than not, he may not even hold a University degree.*

Under the existing arrangement all powers are concentrated in the hands of the Director and the Secretary to the Government, while responsibility rests with the Minister, the Legislative Council and Local Authorities.

* In England and its colonies alone non-academic persons are considered to be qualified for holding the portfolio of education. It is proverbial that the most valuable Minister is one who knows nothing about his department when appointed. This paradox is less true in education than elsewhere, as unfortunately every educated or semi-educated person regards himself on the basis of his own experience as an authority on education.

The Minister has no Advisory or Statutory Committee and has to depend on the advice of a single individual, the Director of Public Instruction, who is supposed to be an expert in every phase of education⁹ Such a thing may have been possible in the earlier stages of educational development, but no one will seriously maintain such a hypothesis in these days of specialisation No country in the world would to-day leave the formulation and execution of all new schemes, and the administration of education, from the nursery to the grave, to a single individual It is therefore desirable that each province, instead of having a single Director, should have at least four different Heads of Departments, each in charge of one branch of education The Minister should also have a Statutory Committee of members nominated by him, but representing different interests The finances should not be left to the sweet will of the Finance Member and his Secretary. Certain heads of the revenues and a fixed percentage of the total income should be earmarked for education This fixed proportion should not be less than 20 per cent of the total income The proportion at present varies from 6 to 15 per cent¹⁰ These minor changes can be made even under the present Government of India Act

In India a Province is partitioned into several divisions and every division into several districts The Local Authority of the District Headquarters is the 'Municipality,' which corresponds to the English Borough Council; the Local Body for the rest of the district is the 'District Board,' which corresponds to the English County Council The Local Bodies are in charge of Primary education They get fixed grants from the Provincial Governments and have power to levy taxes corresponding to the 'rates' in England The Provincial Governments have levied a special cess on land revenue for the expenses of District Boards This cess

9 The existing organisation is based on the recommendation of the Education Commission which presented its report half a century ago Great progress has since been made but the machinery of administration has remained essentially the same

10 See the Table at end of this section

is collected by them with the revenue. The customs are collected directly by the Government of India. The inspection of schools of every grade is carried out by Inspectors working directly under the Director of Public Instruction. The inspecting staff consists of an Inspector, one or more Assistant Inspectors for each division, a Deputy Inspector for each district and one Sub-Deputy Inspector for each sub-division of a district. The Government maintains a model High School at the headquarters of the district and encourages the people by awarding grants in aid to establish and maintain their own schools. Most of these Private schools are denominational. The Universities are partly under the control of the Government and partly independent. The Government gives fixed grants to the Universities which control their own budget. Some of the affiliated colleges are maintained by Government while some are managed by Missionary Bodies by whom they were established but the majority of them are private institutions receiving grants from Government. Technical schools are yet in their infancy. They are not under the Director of Public Instruction, but under the Director of Industries and in some provinces under a separate Minister. European schools are not included in the list of transferred subjects and are not, consequently, under the Minister of Education, though they are supervised by the Director of Public Instruction.

The existing organisation is now being considered by Sir John Simon's Commission.

Statistics —The total population of India is over 316 million, but the population of British India (excluding Indian States) is 247,333,423. The male population exceeds the female population by 7 million. The percentage of literacy is only 7.6 but is much less among women, being 1.8 only. Persons who can read holy books at sight without understanding them but cannot read or write in their vernaculars, are included among literate persons. The percentage of English knowing people is much less. It is 1.58 in males, 0.17 in females and 0.89 in the total population.

The total number of students under instruction is 11,157,496, *i.e.*, 4.4 per cent of the total population, the number of girls being slightly higher than zero per cent.

There are 17 Universities, having 232 affiliated or constituent colleges and teaching about 72,000 pupils in Arts and Sciences and about 18,000 in Law, Medicine, Engineering and Teaching. The number of professional colleges is 77. They are maintained at an expenditure of $2\frac{1}{4}$ crores of rupees.¹¹

The number of High Schools is 2,687 providing instruction for 794,201 pupils at a cost of $6\frac{1}{2}$ crores of rupees.

The total cost on education is about $24\frac{1}{2}$ crores, of which about half is borne by the Government, over 2 crores by the District and Local Board Funds and about one crore by Municipal Funds, $5\frac{1}{2}$ crores, *i.e.* about 22 per cent, is covered by fees paid by the students, and the remaining $3\frac{3}{4}$ crores are met from miscellaneous sources, which include endowments and subscriptions.

The cost of education per head is Rs. 22. It is highest in the Universities, being Rs. 198. In High Schools the cost of education per head is Rs. $51\frac{1}{2}$.

The total number of students who appeared in the Matriculation Examination in 1927 was 43,306, of whom 50 per cent 'passed'. The examination was conducted by 12 different authorities in their respective provinces.

For administrative purposes, educational institutions are divided into two classes, recognised and unrecognised. The recognised institutions are inspected by the Education Departments and their students are permitted to appear in the public examinations. The unrecognised institutions are not inspected by any Government agency. The proportion the two classes bear to each other varies from province to province, and except in Burma, the unrecognised institutions make no important contribution to education. In British India as a whole recognised

¹¹ One crore = ten million, one lakh = hundred thousand. One Rupee = 1s. 6d. One crore of rupees = £750,000 (approximately).

institutions are six times as numerous as the unrecognised. Sixty five per cent of these recognised institutions are privately managed and of the remainder 33 per cent are managed by Local Authorities (Municipal and District Boards) and only 2 per cent are directly under Government management. From the point of view of the services to education the importance of the institutions directly under Government management is out of all proportion.

*Literacy in British India*¹²

Province	Population in millions	Area in thousand square miles	Percentage of Literacy	Percent govt expenditure on Literacy in Eng Language	The proportion of expenditure on education to total provincial expenditure
Madras	42.1	142.2	8.6	94	12.1
Bombay	19.3	123.6	8.1	103	11.1
Bengal	46.6	78.8	9.1	102	14.3
United Provinces	46.3	100.4	3.7	98	15.1
Punjab	20.6	99.8	3.8	56	12.1
Burma	13.1	233.7	27.7	87	6.3
Bihar and Orissa	14.6	83.2	4.5	31	12.1
Central Provinces and Berar	13.0	99.6	4.1	39	11.4
Assam	7.6	53.0	6.2	88	12.7
N.W.F. Province	2.3	13.4	4.7	90	—
TOTAL FOR INDIA	—	—	7.6	89	12.2

Note—The population of British India (excluding Indian States) is 247 million, about a quarter being Mussalmans and a little over one per cent Europeans and Indian Christians. The population including Indian States is 316.5 million.

SECTION 5

Primary Education

The proportion of boys attending the Primary Schools to the total number of boys of the school going age has not been officially determined. I made personal enquiries in four villages in the United Provinces and found that out of every four available boys only one

¹² See *Quinquennial Review 1929* prepared by Richey Vol. II p. 72 Vol. I p. 19 and *Census Report for 1931*.

was attending a Primary School. In the year 1920-21 enquiries were made in 49 villages in Bihar and Orissa containing 9,491 boys, of whom only 2,497 were at school. Of the boys not at school, 46 per cent were stated to have been kept away by poverty¹³. It is sometimes remarked that the cost of education borne by parents is negligible, as the average annual fee per pupil is 13 annas 7 pies only. In calculating the cost of schooling borne by parents, we should consider not only the fees, but the cost of books, materials, and clothes which have to be more decent than those that boys are accustomed to wear in villages. Mr Richey himself worked out the cost per head of providing books, slates, etc., to the boys in Primary Schools. It came to Rs. 3 per year, if the teacher became responsible for the custody and preservation of materials and books¹⁴. The life of a school book in the hands of a village boy is very short.

In the year 1918, the Government of India drew the attention of the Local Governments to the importance of Primary education and suggested the preparation of detailed schemes for educational advancement, they thought that the proposed extension of the franchise would give a special incentive to an early expansion of Elementary education. In pursuance of the desire of the Government of India, steps were taken by each Province to prepare a programme for the expansion of Primary education, more notably by the Punjab where maps were prepared by the District Inspectors showing existing schools and marking places where a school could be built. The Local Governments then entered into contract with each District Board to share the expenses of completing its five-year programme, which was not always adhered to. Since the inception of the Reforms, Compulsory Education Acts have been passed by nearly every province, but they are not rigorously enforced.

The progress of primary education has not been uniform throughout India. Each province has developed its own system of primary education according to local condition and past history. It is beyond the scope of

¹³ Richey, p. 130

¹⁴ Richey, p. 102

this book to describe in detail the existing conditions in each province and to suggest the lines on which future development should be made. I confine myself to some aspects of primary education that are common to all the provinces.

Buildings — Lavish expenditure on school buildings in some provinces has given rise to the opposite theory that schools may be held under trees or in hired buildings. Both views are untenable. Sun, dust and rain do not permit open air schools in India and borrowed buildings are ill ventilated and insufficiently lighted. Schools should have buildings of their own constructed in the same style as other houses in the village and a large capital should not be buried in brick and mortar. Bengal had fixed Rs. 1000 as the cost of building a model village school but on account of the rise in prices and increased cost of labour this sum has been found to be insufficient.

Wastage — Stagnation and wastage constitute another important problem to which attention has repeatedly been drawn. But no practical steps have yet been taken to solve it. The total attendance in all the schools and colleges in India in 1921-22 was 7½ million of which about 5 million (i.e. two-thirds) were in the first class (including the infant class) of the Primary Schools and the remaining one third was distributed among the remaining three classes of the Primary Schools and among all other educational institutions including Universities and colleges.¹⁵ Attention has also been drawn to this wastage by the Royal Agricultural Commission. The majority of the boys drop off in the first class and only 19 per cent. of those who join the first class of Primary Schools actually reach the fourth class.¹⁶ Children in the first class cannot read and write and the little they learn is soon forgotten. Compulsion appears to be the only solution for stopping wastage.

Adult Education — The problem of adult education especially in rural areas has become important and has drawn considerable attention in recent years. The Mil

¹⁵ Richey p. 119

¹⁶ See Chap. IV Sec. 6 (p. 238) for statistics.

tary Department started the movement for the education of illiterate soldiers and established special schools for that purpose. The Y M C A is also doing yeoman's service to the country in this direction. Local Boards and private bodies have recently opened night schools for the benefit of the adult population. Some children, who are compelled on account of poverty to work in the fields in the day-time, also attend these schools.

The administration of Primary Schools differs in the different provinces, and cannot be described in detail in a single section. Broadly speaking the administrative side of the management is under the Local Authorities and the academic side under the Provincial Department of Education. The department prescribes the courses of instruction and text books, conducts the final examination and carries on supervision and inspection through its Inspecting Staff. The Local Authorities (*i e*, Municipalities and District Boards) appoint teachers, provide buildings and control the financial and administrative side of the Primary Schools. In some provinces, the District Boards are not allowed to spend money on the English Schools. The funds at the disposal of the Local Authorities are not sufficient to enable them to undertake a comprehensive scheme of Primary education.

Compulsory Education — Though education has been steadily increasing, the rate of progress has been very slow. Taking boys over 5 years of age, we find that 6 per cent of the male population was literate in 1881, 11 per cent in 1911 and a little over 13 per cent. in 1921. Of the female population less than 3 per cent. was literate in 1921. If the same rate of progress continues consistently in all parts of India, it will take about two centuries for India to reach the present percentage of literacy (over 90 per cent) in England and Wales.¹⁷ The efforts hitherto made are far from being satisfactory. Mr Mayhew writes:—

“The policy of absorption (*i e*, conversion of ‘private’ institutions into ‘public’ institutions) and improvement seems

to have met with general approval upto the close of the nineteenth century. It satisfied the demands of the Government departments, trade and industry, provided facilities where required, produced statistics of steady rise in expenditure and registered pupils to satisfy the Home authorities who since 1854 had been reminding the India Government of its obligations. The Hunter Education Commission of 1882 recognised the need for acceleration but made no drastic or revolutionary proposals. Their recommendation for an increase of ten lakhs of rupees in the annual budget for education shows that they contemplated a revolutionary campaign.

The late Mr. Gokhale in 1910 initiated the movement for compulsory Primary education and pleaded for an additional expenditure of 5½ crores of rupees. The King Emperor in his Durbar speech of 1912 said —

It is my wish that there may be spread over the land a net work of schools and colleges from which will go forth loyal and manly and useful citizens able to hold their own in industries and agriculture and all the vocations in life and it is my wish too that the homes of my Indian subjects may be brightened and their labours sweetened by the spread of knowledge with all that follows in it from a higher level of thought of comfort and of wealth. It is through education that my wish will be fulfilled and the cause of education in India will ever be close to my heart.

It has now become clear that a voluntary system is not only very slow but also financially and educationally very wasteful and ineffective. Compulsory education is not only essential for an intelligent appreciation of the duties and responsibilities of citizenship but also for the spread of education of every type. The Royal Agricultural Commission remarks —

We are convinced that the progressive adoption of the compulsory system is the only means by which may be overcome the unwillingness of parents to send their children to school and to keep them there till literacy is attained.

They have recommended that compulsion may be introduced as rapidly as local conditions permit. Since the inception of the Reforms, compulsory education has begun to come slowly into existence and its need has been more generally recognised. The Provincial Legislatures have all prepared their Primary Education Bills but the responsibility for enforcing compulsory education has been put on the Municipalities and the District Boards.

The Local Authorities first seemed unwilling to identify themselves with any coercive measures. Neither the members of Provincial Councils nor those of local bodies are prepared to recommend additional taxation, partly on account of the poverty of the people, but chiefly on account of the risk of displeasing their electors.

Compulsion has been introduced in the following areas¹⁸ —

Province	Municipalities	Rural Areas
Madras	21	3
Bombay	7	—
Bengal	—	—
United Provinces	25	—
Punjab	57	1,499
Burma	—	—
Bihar and Orissa	1	4
Central Provinces	3	21
Assam	—	—
	<hr/>	<hr/>
TOTAL	114	1,527

Success in the Punjab is due to the efforts of the community-boards and community-councils.

There are three chief difficulties in the enforcement of the Compulsory Education Act—caste system, want of teachers, and cost. We will consider each of these in turn.

(1) The existence of the caste system is an important point, but it is not so serious as it is made out to be. The Director of Public Instruction of the United Provinces reports that the caste system is breaking down and that “there is now no strong opposition to boys of the untouchable classes reading in the ordinary Board schools and the number of such boys is increasing.” It is possible to reserve, during the transition period, a certain number of schools in each locality for children of the higher castes.

(2) Universal experience has proved that the best teachers for very young children are women. In Western countries Primary education is mostly imparted by women-teachers. Determined attempt ought to be

made to remove the difficulties which at present stand in the way of Indian women intending to qualify as teachers. The supply of women teachers is one of the most important academic problems. Elementary education, especially of girls, cannot make much headway until women are available as teachers. The system of training teachers for Primary Schools which is described in detail in a subsequent section is defective in every province and radically wrong in the United Provinces. The would-be teacher is expected to pass the Vernacular Middle Examination at the age of fourteen. He is then allowed to waste four years of his life in cattle grazing or sitting idle at home and unlearn what he had already learnt during the previous eight years. At the age of eighteen he joins a training school where he learns the theory and practice of teaching for nine months and is then posted as a teacher. A gap of four years in his education is a serious drawback. Boys as in France should be admitted in Normal schools immediately after passing the Vernacular Middle or equivalent examination. The courses in Normal schools should extend over a period of three or four years followed by a probation period of one year in a primary or Middle school. Better facilities should also be provided for the training of women teachers who should be admitted in Normal schools on easy conditions. Untrained teachers can be employed till trained teachers are available. They may teach according to the old Indian system which is more economical than modern methods.

(3) The most serious difficulty is that of cost. The first stage towards a financial policy for compulsion must be the acceptance by each Provincial Government of financial responsibility for a certain minimum of education within each Local Board area. This minimum must provide for periodic expansion on a compulsory basis but will vary according to the needs and conditions of each area. No substantial advance will be possible until funds have definitely been secured and earmarked for this purpose and until the responsibility of raising these funds has finally been attached to Provincial Governments who possess the machinery for collecting

The Local Authorities first seemed unwilling to identify themselves with any coercive measures. Neither the members of Provincial Councils nor those of local bodies are prepared to recommend additional taxation, partly on account of the poverty of the people, but chiefly on account of the risk of displeasing their electors.

Compulsion has been introduced in the following areas¹⁸ —

Province	Municipalities	Rural Areas
Madras	21	3
Bombay	7	—
Bengal	—	—
United Provinces	25	—
Punjab	57	1,499
Burma	—	—
Bihar and Orissa	1	4
Central Provinces	3	21
Assam	—	—
	<hr/>	<hr/>
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¹⁸ India in 1927-28, p. 364

make to remove the difficulties which at present stand in the way of Indian women intending to qualify as teachers. The supply of women teachers is one of the most important academic problems. Elementary education, specially of girls, cannot make much headway until women are available as teachers. The system of training teachers for Primary Schools, which is described in detail in a subsequent section, is defective in every province and radically wrong in the United Provinces. The would be teacher is expected to pass the Vernacular Middle Examination at the age of fourteen. He is then allowed to waste four years of his life in cattle grazing or sitting idle at home and unlearn what he had already learnt during the previous eight years. At the age of eighteen he joins a training school where he learns the theory and practice of teaching for nine months, and is then posted as a teacher. A gap of four years in his education is a serious drawback. Boys as in France, should be admitted in Normal schools immediately after passing the Vernacular Middle or equivalent examination. The courses in Normal schools should extend over a period of three or four years followed by a probation period of one year in a primary or Middle school. Better facilities should also be provided for the training of women teachers who should be admitted in Normal schools on easy conditions. Untrained teachers can be employed till trained teachers are available. They may teach according to the old Indian system which is more economical than modern methods.

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revenues and taxes. As much as possible must be secured for educational expenditure from the present Provincial and Imperial budgets, and whatever more is necessary, should be raised by fresh taxation and by earmarking certain sources of income for educational expenditure.

The percentage of expenditure on education is different in different provinces; the average for the whole of British India is 12·2.

It seems fair to ask that 20 per cent. of the Provincial income be kept reserved for education, and economy exercised in the expenditure on other departments maintained by the remaining 80 per cent. of the Provincial funds.

In every country, a portion of the income derived from income-tax and customs is spent on education. In Switzerland the customs constitute the only source of income for the Central Government, yet the Central Government pays the entire cost of higher technical education. In England half the cost of education is met from the income from taxes and customs. The Government of India should pay the entire cost of specialised education of an All-India character, such as that of the Dehra Dun Forest College, Military College, Technological Institutes, etc., and give grants to Provincial Governments equivalent to half the cost of University education. The grant from the Imperial Government and additional funds secured from Provincial revenues, will not be sufficient to meet the cost of compulsory education. The levying of special taxes earmarked for increased educational expenditure will be unavoidable. We should first make up our mind to pay for education, and then turn our attention to making a judicious use of available funds. There are other minor questions, such as the courses and syllabuses of studies, and preparation of text books suitable for different types of schools, which require consideration. The Government of India or the Provincial Governments may appoint Committees of Experts to settle these questions. These committees should avail themselves of the text books now in use in European countries, and adapt them to suit Indian conditions.

Multiplicity of Subjects—Parents often complain that the school programme is much overloaded and is detrimental to the health of their children. Children of tender age are required to read too many subjects, and a large number of text books are prescribed in each subject. A comparison of the subjects taught in Indian schools with those taught in schools of similar standard in Europe in countries will show that the curriculum of Indian schools is not actually overloaded as regards the multiplicity of subjects. The defect really lies in the mode of teaching in prescribing text books in all the subjects and in the system of examination. The child is expected to cram all the details of every lesson and to reproduce them at all the school examinations. The burden on the children will be greatly lightened if examinations are restricted—as in Germany and France—to two or three principal subjects only.

Religious and Moral Instruction—Religious instruction is an important problem in every country and it will become even more important when compulsory education is enforced. The Indian Government has adopted the principle of strict neutrality which has always been challenged from the academic point of view.

Mr Littlehales¹⁹ recently classified schools of thought holding different opinions on religious instruction. Some people he said hold that religion should be the basis of all education while others contend that religion has nothing to do with education. There are some who consider that only one creed should be taught others think that several creeds may be taught in the same school. Some persons prefer home instruction in religion others think that school instruction should be associated with home instruction and supplement it. Persons holding one opinion are not often tolerant of the views of others. Three years ago the Muslim members of the United Provinces Legislative Council demanded provision for religious instruction in Board Schools in places where the Compulsory Education Act was being enforced provided that the parents were willing to allow

then boys to receive such instruction. Their demand was opposed by those who thought that schools have no place for religious instruction. The point was keenly debated with the result that the Muslim members, who were keen on voluntary religious instruction, left the Council in a body as a protest.

The Government of India in their letter No. 437, dated 19th March 1921, to the Government of Bengal stated that they had no intention whatever of abandoning their attitude of strict religious neutrality or the principle that Government schools ought not to be used as a means for fostering one religion at the expense of another but they were of opinion that the embargo which had been placed on the introduction of religious instruction in publicly managed schools might be removed. The question of moral education, as distinct from religious instruction, has been discussed from time to time in India. The conference on moral education held at Simla in 1913 did not come to any definite conclusion. There are many persons who strongly believe that moral instruction, apart from religious education, becomes entirely mechanical. This is also the experience of those who have followed lessons on moral instruction in France²⁰ and elsewhere. In the same year, the Nathan Committee in Bengal urged that direct instruction in morality should be regarded as an integral part of general training and that facilities should be provided by Government for religious teaching in schools, the option to attend religious classes being exercised not by the pupils but by their parents. Mr. Ahsan-Ullah, Assistant Director of Instruction, Bengal, in his admirable note on moral education and character-building, has said "Moral training and religious instruction are essentially interdependent. Both are necessary for a true education. Religion is the ultimate basis of morality." He insists on religious instruction, on the ground, among others, that it trains the mind to respect authority and law, which is essential for every citizen. The problem is not an easy one, and the conclusion arrived at by Mr. Littlehales is a valuable

contribution He says in the address referred to above —

I reach the conclusion that in any comprehensive system of school and college education provision should be made as far as is practicable for every school class and section of thought (on religious instruction) Any large comprehensive system is a tolerant system The tolerant man is the man who acts according to the view that other views than his own most probably contain some elements of truth True tolerance is wide and comprehensively embracing It excludes none from its fold It includes even the intolerant

In any scheme of comprehensive education in India the desire for religious instruction and prejudice against castes cannot be ignored

SECTION 6

Rural Education

If a person who had lived in India two centuries ago were to visit an Indian village again he would not notice any appreciable change He would find the agricultural conditions, with few exceptions much as they were in his time If he was inclined to form his judgment from the reports of the Agricultural Department, which are often written by persons who were not intended to be agricultural experts, he would be perplexed at the contradiction between the static conditions of the villages before his eyes and the claim for all round improvement made by the Agricultural Department He would read of improved methods of agriculture being employed but would see no sign of them in the villages themselves Large sums of money are spent in maintaining a highly paid department and in performing experiments not under the actual conditions of Indian villages but under conditions which ought to exist in an ideal village of the Agricultural Department The agricultural institutions merely keep in view the training of clerks and other employees required for the maintenance of the Agricultural Department and other official organisations and little or no attempt is made for ameliorating the condition of life in villages and raising the mental outlook of the primitive people

Mr F L Brayne, a Punjab Civilian, has recently undertaken the work of village uplift in the district of Guigaon. By improving economic and sanitary condition of the villages, by carrying on intensive propaganda through official and non-official agencies, and by providing increased facilities in education, he has already achieved remarkable success, and his efforts, if carried on further, will prepare the people for the acceptance of the system of compulsory education and improved methods of agriculture and sanitation, and for the means of protection necessary against their perpetual indebtedness to *Mahajans* or local bankers.²⁰

The chief obstacles to the spread of agricultural education are illiteracy and an irrational reverence for old customs and traditions. At present the percentage of literacy in India as a whole is 7.6. The proportion of illiterate persons is much higher in the villages than in the towns. Add to this the fact that an appreciable number of the so-called literate persons did not attend school for more than one or two years as is evident from the following table of wastage, and the proportion of persons who can really read and write will be very small.

*Table showing the Wastage in Primary Schools for Boys*²¹

Class and Year	No. of Pupils	Wastage in Class and Percentage
I, in 1922-23	3,453,046	
II, in 1923-24	1,218,758	64.7
III, in 1924-25	897,512	74.0
IV, in 1925-26	655,101	81.0

It means that out of 100 boys who begin to attend school, only 19 reach the fourth class.

No effective system of agricultural education can be introduced unless Primary education is made compulsory. The Royal Agricultural Commission also recommends compulsion in education in the following words.—

Compulsion should be introduced as rapidly as local conditions permit and should be preceded by a campaign of explanation and persuasion.²²

²⁰ See Brayne's *Sojourn in an Indian Village* and *The Remoteness of Village India* (Oxford University Press).

²¹ *Report of the Royal Agricultural Commission*, p. 521.

²² Recommendation No. 4, p. 561 of the Report.

Long before the introduction of compulsion it will be necessary to have an adequate supply of teachers. The teachers of the village schools should be selected, as far as practicable, from the locality of the school and should be in sympathy with the feelings and traditions of the people. They should be of rural origin and upbringing. This is a common practice in European countries and is also recommended by the Agricultural Commission. These village teachers should be trained not only in the art of teaching but also in community work and service and should be taught to participate in the healthy activities of village life. A new scheme of training teachers on these lines has been worked out by the Presbyterian Mission at Moga² and has been adopted and extended by the Punjab Education Department. Teachers intended for rural schools should be given a course of lectures in agriculture either at the Government agricultural farms or in the training colleges themselves. Teachers who attend these lectures should be given special scholarships and special monthly allowances as in France in addition to their usual pay.

No differentiation is made in the syllabuses of Primary schools situated in rural and urban areas in any country in Europe. The Rural Education Committee in the United Provinces in 1910 also recommended no differentiation. But text books teaching the same subjects should substantially differ. I have explained in Chapter II that the Germans have prepared separate text books in each subject of schooling not only for agriculture but for all other professions. The desire for the provision of suitable text books has been expressed repeatedly but the Text book Committees have not, probably on account of vested interests, helped in the solution of the problem. The Royal Agricultural Commission has emphasised the fact in the following words —

There appears reason to believe that Text book Committees in general are apt to dissociate themselves from any responsibility for securing the supply of the right class of text

23 For further details see Chap. IV Sec. 16

24 Chap. III Sec. 8

books and to confine themselves to the *role* of censors. It would also seem that, in some instances, they find it too difficult to resist the prejudices of Local Authorities and the importunities of the authors of school books. We advise that the authors of school text-books should not be nominated to Text-book Committees. In our opinion, the part the Text-book Committee can play in developing primary education on right lines is so important that it is essential that it should be constituted in such a way as to command the respect and confidence of all who are interested in education."²⁵

I would add that the membership of text book and other committees are frequently distributed as a patronage and really suitable persons are ignored in favour of those whom it is thought expedient to please.

It is the common experience in every country in the West, and the Agricultural Commission has also endorsed the view, that it is not useful to introduce agriculture as a distinct subject in the syllabus of Primary schools till the age of ten. Education with an agricultural bias can, however, be given in rural areas by selecting suitable text books, by giving to village-school teachers some instruction in agriculture in the training colleges or in demonstration farms, by taking pupils for walks in the fields, by visiting agricultural farms, if there are any in the neighbourhood, and by keeping school gardens as a part of Nature study. Agricultural instruction in village schools corresponds to wood and metal work in urban schools, and it cannot be started before the lower middle stage. The distinction between school-farms and school-gardens is as unnecessary as it is futile. This question, as the Agricultural Commission points out, can best be decided in each case on its merits. A small garden can always be attached to a farm, but land sufficient for farming cannot be secured for every school. Horticultural instruction is not the only objective of school-gardening. It supplies useful material for object-lessons in the lower classes. The gardens, as explained in Chapter I, affect village life in general.

Bombay Type of Agricultural Schools — These schools are sometimes called the 'Loni Schools'. The name is derived from the Loni village, where the first

school of the kind was established. The course of instruction lasts for two years. Instruction is given in vernacular and is both theoretical²⁶ and practical. Three hours daily are devoted to practical work. Each boy in his second year is made responsible for the cultivation of an area of about one-quarter of an acre. He is also required to keep a diary of his daily work and a cultivation sheet of expenses and realisations.

These schools have been criticised adversely by the Agricultural Commission on two grounds, that they are expensive and that they lead to nowhere. It thinks that these schools are an artificial addition to the educational system and not a natural development of it.²⁷

This does not seem to be fair. One would like to know what the boys do after leaving these schools. Do they go back to their own farms or become village teachers or seek employment as clerks? Criticism will be justified if the boys from the Loni Schools shift to towns and become clerks. Agricultural education of this grade is free or almost free in every country; the Government has to create a demand by offering every facility for agricultural education. It is not fair to condemn any institution on the ground that there is no demand for this type of education from parents who are willing to pay the actual cost. How many parents I ask are there in England or for the matter of that in any other country who are willing to pay the actual cost of schooling of any type? If this principle be accepted, I am afraid almost all the institutions in every country will have to be closed. It would be easy to establish a diploma-class in the agricultural college at Poona or else where for further and more scientific training of exceptionally intelligent boys from the Loni Schools.

The Agricultural Commission has recommended the adoption of the Punjab System whose aim, according to the official circular, is to *enrich the middle-school course in rural areas by the inclusion of agricultural*

²⁶ The subjects included in the theoretical part of instruction are the principles of agriculture, animal husbandry, dairying, elementary botany, entomology, agricultural arithmetic and surveying, physical and agricultural geography of India. Lectures are also given on village life and citizenship.

²⁷ Report p. 536

training, and thus to bring it more in keeping with the environment of the pupils. This object is to use agriculture as a means of mental discipline and training and as an important accessory to the general subjects taught in these schools." Farms about three acres in extent are attached to the schools and six periods per week are devoted to the course by each of the four classes which make up the vernacular middle-school. The Loni Schools of Bombay give intensive education to a few, and the Punjab Schools give an agricultural bias to a large number. The two systems, in fact, are complementary and they serve different purposes. There is no reason why they may not be introduced side by side.

Each province has an agricultural college which trains, though not exclusively, persons required for the agricultural service of the Government. Some of these colleges are affiliated to the Universities, others are not. The Agricultural Commission has recommended their affiliation to the Universities. This is not a very vital question. In England all agricultural colleges have been recently affiliated to the Universities, on the Continent they are independent. The affiliation of these colleges to the Universities will give them an academic status, but it may prevent them from adapting themselves to the needs of the people in various matters. The Universities may insist on excluding from the colleges students who have not passed the Matriculation or the Intermediate Examination but who may be able to derive benefit from agricultural education. If agricultural colleges aspire to do something more than the training of employees for the Agricultural Department, they should admit in larger numbers such students as are likely to do good work in the fields, irrespective of their possessing the certificate of a public examination. These colleges may also train teachers for secondary agricultural schools, and provide short courses for village-school teachers.

The Royal Agricultural Commission has devoted a chapter to education, but considering the limited time at their disposal and the importance of other aspects of agriculture, they could not deal with the educational

problem more thoroughly. The public expected to be advised about changes in the courses of instruction, syllabuses of studies, examinations, inspection of and control over the existing schools and colleges for giving an agricultural bias to general education, as also about the creation of special schools for diverting the mind of boys and young men of different attainments from clerical to agricultural pursuits.

SECTION 7

Secondary Education

The part which Secondary schools play in the Indian System of education is just the reverse of that assigned to them in England and France.

The English Public Schools and the French *Lyées* as pointed out in previous sections are the fulcrum of the English and the French System of education. In India the High Schools were destined from the outset to be merely preparatory schools for students intending to join the University colleges. The idea that these schools definitely marked the end of secondary education has never been developed.

About thirty years ago, every college had a Preparatory High School and the schoolboys were taught by the college staff in the same building. The Universities Commission of 1902 recommended that college and school classes, even when connected together, should be conducted in separate buildings and under separate management. A large number of these Preparatory High Schools were opened quite separate from the colleges, but all had only one object in view, namely preparing students for the University admission examination.

Government accepted the success in the admission examination as passport to special grades of the public services and this policy naturally led a large number of students who never intended joining the colleges, to pass the admission examination. The number of students who actually joined a college after passing the Matriculation or admission examination was always less than a third of the successful candidates. In the year

1921-22, only 1,500 out of 5,600 successful candidates actually joined a college. This fact was noted by the Universities Commission of 1902, which recommended that "it would be of great benefit to the Universities if the Government directs that the Matriculation Examination be not accepted as a preliminary or full test for any post in Government service." The Government, on the advice of this Commission, instituted a special examination under the name of the School Leaving Examination. This new examination was not recognised by the Universities, and the public generally opposed this innovation on the suspicion that it was a deliberate attempt to stop higher education.

The School Leaving Examination proved a success in the United Provinces for two reasons. (a) The Allahabad University, by a bare majority, accepted it as equivalent to its Matriculation Examination. (b) The Government, on the recommendation of the 1902 Commission, ceased to recognise the Matriculation Examination as passport to service. The School Leaving Examination in the United Provinces was conducted on right lines. It took into consideration the school records of candidates, and oral and practical tests were conducted by examiners sent to every school. The examination started with hopeful promises, but it gradually degenerated into a type definitely inferior to that of the Allahabad University Matriculation Examination, for reasons explained in the next section.

The secondary schools of India have been criticised because the standard of general education they provide is too low, because they provide only a general and not a vocational education, because the quality of the English teaching which they give is poor, because they devote themselves to the teaching of English and discourage the Vernaculars, and finally, in general terms, because they are not national in character.²⁸ These schools have only one aim—they prepare candidates for the Matriculation Examination. A radical change is needed in the system of secondary education. It stands in need of

some overhauling so as to bring it more into line with present-day requirements and aspirations. It is recognised too, that since even at best only a small portion of India's vast population can hope to pass beyond the stage of secondary education this education should be sound and complete in itself.²⁹ Secondary education in India has suffered on account of the absence of any policy. The present policy of the Government, which may be called a negative policy, is to maintain as a model one High School at the headquarters of each district to encourage by the system of grants-in-aid the richer castes and communities to establish their own schools to stop multiplication of new schools and to discourage new educational experiments under the excuse of inefficiency and unhealthy rivalry. This policy has three grave defects —

(1) The High Schools will always be concentrated as they now are in large towns and the village population and persons residing in smaller towns will be debarred from the benefits of secondary education. There will be an overflow, or to use the phraseology of the Education Department an unhealthy rivalry among High Schools in larger towns and total absence of facilities for secondary education in smaller towns. Sir George Anderson in his annual report has drawn attention to this unequal distribution. He says —

It is not uncommon for private schools to be multiplied in urban areas in a spirit of competition. Such schools are often located a few yards from each other sometimes even in contiguous buildings. It is to be feared that the comparatively wealthy urban areas have profited by the provision of facilities for advanced school education at the expense of the poorer rural tracts.

(2) By this method only boys belonging to richer castes and communities, who can afford to collect sufficient recurring and non recurring capital necessary for entitling them to the Government grant will be able to receive High School education. The system of grants is in itself very defective.

²⁹ India in 1937-28 by J. Coatsman p. 887

³⁰ In Bengal this policy resulted in the establishment of a large number of proprietary schools which are adversely criticised by the Calcutta University Commission in Vol. I of its Report.

(3) The aided High Schools are mostly denominational, such an organisation of secondary education is bound to influence all other forms of education, and its reflection on the politics and culture of India is unavoidable. I have briefly referred to the matter in the Introduction

For a population of 247 millions in British India there are 2,687 High Schools with 7,94,201 pupils. In addition to the High Schools which prepare pupils for the Matriculation Examination, there are 2,864 feeder schools which are called Middle Schools. They are maintained at a cost of 6½ crores of rupees.

In the year 1921-22, the total cost of the maintenance of secondary schools was 42 millions, of which about 18 millions were realised from tuition fees while the Government grant was only 14 millions, i.e., one-third of the total cost. Over six millions were paid by the parents in the form of donations and subscriptions and the balance of about four millions was contributed by the Municipal and District Boards.³¹ The Public Funds contributed only 36 per cent of the entire cost of secondary education and the parents paid about 64 per cent in the form of subscriptions and tuition fees, a proportion unique for India.

I now give the cost of tuition per scholar from different sources

Average Annual Cost of Educating a Pupil in an Anglo-Vernacular School for Boys in 1921-22

Province.	Total Annual Cost per Scholar	From Govt Funds	From Funds of Local Authorities	From Fees	From Donations and Subscriptions
Madras	41 3	8 2	2 7	23	7 4
Bombay	68 1	23 0	1 6	29 8	13 7
Bengal	30 3	5 0	0 9	19 2	5 2
United Provinces	85 2	42 7	1 4	26 6	14 5
Punjab	44 0	13 3	4 2	18 0	8 5
Burma	99 1	56 5	—	31 2	11 4
Bihar & Orissa	44 4	16 1	—	19 2	9 1

³¹ Richey, Vol II, p 109

Average Annual Cost of Educating a Pupil in Anglo Vernacular School for Boys in 1921-22—(contd.)

Province	Total Annual Cost per Scholar	From Govt Funds	From Funds of Local Authorities	From Fees	From Donations and Subscriptions
Central Pro- vince and Bihar	211	41.1	7.5	18.8	0.2
Assam	12.2	19.7	1.3	17.8	4.4
North West Frontier					
Madras	10.8	21.7	2.2	0.9	10.0
Minor Admin- istrations	1.1	2.1	1	15.0	13.0
Total for British India	1.9	14.7	1.0	21.3	8.0

Grants in aid. The question of grants in aid is one of great difficulty. The regulations in force are different in different provinces. Generally speaking the system of grants in aid fall into two categories—

(a) The system which limits the grant either to a proportion of the approved expenditure or to a fixed fraction of the sum provided by the managers from other sources including fees.

(b) The system which limits the grant with reference to a standard scale of expenditure laid down by Government for each type of schools as sufficient to maintain it in a state of efficiency.

In practice we find that the major portion of the grant goes to the wealthier localities and the wealthier classes of people to whom the receipt of grant is more a luxury than a necessity. The manner of calculation is very perplexing and grant is rarely given at the right time. A person who has by creating local enthusiasm collected funds sufficient to run a school with the help of Government grant is seldom encouraged by the Education Department at the right moment. According to their red tape system a three years' notice is necessary and this period is enough to throw cold water on peoples enthusiasm. It is desirable to provide a fixed amount

each year in the budget for such casual grants as may be given by the Minister under the advice of a Special Committee suggested in Section 4

The real solution of this and other difficulties referred to in the preceding paragraphs is that the Government, like most countries in the West, should take the entire responsibility for secondary education, and establish its own schools in each locality. Experimental schools supported by liberal grants may be established by educational organisations. The money now paid by the people in the form of donations and high fees may be collected by additional taxation.

High Schools should not be regarded as annexes to Colleges, but secondary education should be regarded as the end of a definite stage of education and courses should be modified accordingly. A large number of students, as in other countries, will be directed to practical life and technical education, and Degree Colleges will thus be relieved from the influx of students who are not really meant for higher education.

A prominent feature of the Indian High Schools is their striking uniformity. In the eyes of the Inspectors, who are mostly responsible for them, this is an advantage as it facilitates inspection, but it is, in fact, a grave defect. The organisation, the method of instruction, and the daily routine differ very little, whether the institution is an Islamia School on the Frontier or a Government High School in Madras³³. Mr. Sanderson says that a tour after an interval of five years will reveal an amazing monotony in the classroom. "If one visits a certain class at a certain time of the year, one finds the same sentences being taught in the same way with the same emphasis and with the same mispronunciation."

Courses of Instruction — The courses of instruction in the secondary schools are dominated by the examination syllabus prepared by the University. They consist of English, Mathematics (Arithmetic, Algebra up to simple equations and Geometry), History of India, Geography, the Vernacular and one optional subject, which may be

an Indian Classical Language an additional course of Mathematic or Physics and Chemistry. In several provinces, candidates in selected schools may take up wood work, agriculture or drawing in place of Classics or Science. Drawing is compulsory in lower classes. The medium of instruction in lower classes is Vernacular but in higher classes it is English. There is a movement now in every province demanding that the medium of instruction and examination at least up to the Matriculation stage should be the Vernacular.

Private coaching or private tuition is a unique feature of education in Indian High Schools. The senior students, school masters, sometimes even clerks from Government and private offices are engaged by the parents of richer boys to teach one or two hours every day at their houses to supplement the defective teaching of the schools and to prepare the boys for promotion examinations.

Cramming for examination is an established and recognised institution. The entire class is given special leave for cramming called 'Preparation Leave' just before the examinations. The period of preparation leave varies with the importance of the examination. In case of public examinations it extends to four and sometimes to six weeks. The teachers during this period, have no work in the school while private tutors are in great demand. Preparation leave and private coaching are the inevitable consequences of the present system of examinations.

Parents' Association — The co-ordination of school education and home training is an important educational problem. In day school the boys attend schools for five hours a day and parents are responsible for the training of children during the remaining period. Teachers and parents are equally concerned in providing healthy recreations for boys outside the class rooms and a frequent interchange of views between them is very desirable. Parents' Associations, on the lines described in previous chapters, will serve a useful purpose. They will give opportunities to teachers and parents to meet together

and discuss how class teaching can be co-ordinated with home training

The Teaching of English —The teaching of English in India has suffered considerably on account of the rival theories advanced from time to time by persons who had a hand in the drawing up of the courses of instruction in English. The question has often been asked. Should English be taught in India like Latin in the Public Schools of England, or should it be taught according to the method now followed by the British Schools and Universities for the teaching of English? We cannot follow either of these methods; English is not the language of the country and it is certainly not a dead language like Latin. English cannot be taught on the lines of teaching the modern spoken languages in British Schools, where hardly one out of 100 students can speak them even after studying them for about six years. Though English is not the mother-tongue of Indians, its importance is as great as that of Persian during the Mughal rule. This is due to three causes. English is the medium of instruction in the Universities and, to a great extent, also in the High Schools, it is the Court language, and the language of the Government, it is the only common medium of communication between the peoples of the different provinces of India, who speak different languages.⁸⁴

The English people, on account of their geographical position, have never felt the need of being good linguists and their mode of teaching of modern European languages is not an ideal one. Their system of teaching Classics is as good and as scholarly as those of France and Germany, though it differs from them in some important respects. I have not seen any Englishman, who has not lived in France and Germany, able to speak the French and German languages after leaving his school. Indians, both Hindus and Mohammedans, have been accustomed for centuries to learning foreign languages with a perfection that one associates with the mother-tongue, they are, consequently, more competent than the

⁸⁴ See Footnote 1 on p 215, 179 different languages and 544 different dialects are spoken in India

English people to determine the method by which English should be taught in Indian schools and colleges. At the same time only Englishmen can correctly teach the pronunciation and accent of their language. I am, therefore, inclined to believe that arrangements should be made, wherever possible for the teaching of English by persons who can claim it as their mother tongue. The method of instruction should be a combination of the methods usually followed for teaching the Classics and for teaching modern European languages and the mother tongue.

Now I come to some details of the rival theories. For the teaching of English the Universities Commission of 1902 recommended as follows —

(1) Text books in English should not be prescribed for the Matriculation classes: the course should be described in general terms, a list of books being given by way of illustration. (2) In the higher courses the books should be chosen as examples of language and style and should be studied more or less minutely. Books which deal with the history and criticism of literary works which the students have no opportunity of reading should not be included. (3) The English course for the M.A. degree should be combined with a course in Vernacular or in an Eastern or Western classical language.

Sir Gurudas Banerjee, a member of the Commission, took exception to the abolition of text books in the teaching of English in Matriculation and said that the object which his colleagues had in mind would be better secured by prescribing suitable text books than by the plan recommended in the report.³⁵

The detailed study of text books has been a controversial topic in the United Provinces. The advocates of School Leaving Examination condemned the Matriculation Examination of the Allahabad University on the ground that the knowledge of English displayed by the Matriculation candidates was defective as the students crammed notes on the prescribed text books. They thought that better results could be obtained by omitting the text books altogether. The system recommended by the Universities Commission of 1902 was tried but a few years later several Head Masters petitioned the School Leaving Board, that by the abolition of text books

the standard of English instead of being improved had gone down; and the use of text books was once more restored. Later on, it was thought necessary to have some text books for detailed study in addition to a few books for rapid reading, the latter being as difficult as the former and frequently interchanged in successive years. The position of English as a foreign language and as a medium of instruction was discussed by a representative Conference which met in Simla in 1917. The Conference came to no definite conclusion.

The rapid change of text books, which is due to the persuasion of text book writers, exercised in every conceivable manner, is another cause of the defective teaching of English. A student, who fails on account of his imperfect acquaintance with his English text books, should naturally be required to read the books over again, but he is asked to read new books instead, and in half the prescribed time. Add to this the laziness of those teachers, whose knowledge of English is anything but quite satisfactory, in getting up the new text books every year and preparing their class lessons.

The direct method of teaching English is useful, provided it is employed in addition to, and not as a substitute for the detailed study of text books. The teaching of English in the Universities has suffered recently on account of the over-enthusiasm of teachers who have taken Honours degree in the English language from the British Universities. They condemn the traditional method followed by the Indian school-master and do not fully appreciate that English is not the mother-tongue of an Indian student and that he has not read the important works of standard authors as an English student has done. The modern method of teaching English can only be useful if it is employed in addition to, and not as a substitute for our classical method of instruction. It is universally admitted that the standard of English is going down, even in England herself, and a radical change in the method of instruction and mode of examination is necessary. The frequent change of text books is economically unsound and academically a measure of doubtful utility.

SECTION 8

Intermediate Colleges

The term 'Intermediate College' was first introduced by the Calcutta University Commission. These Intermediate Colleges were intended to be entirely different from the 'Second grade Colleges' condemned by the Universities Commission in 1902. It is necessary to think the Commission that the work now done in the Intermediate classes of the University should be transferred to institutions of a new type to be known as Intermediate Colleges to be organised and conducted according to the method appropriate for school work to be distributed over every part of Bengal, and to be placed under the same general direction as the High English Schools.²⁶ The Commission thought that the Matriculation Examination at the age of sixteen and the Intermediate Examination at the age of eighteen corresponded to the Junior School and the Senior School (or Matriculation) examination in the United Kingdom and that the Intermediate Examination should mark the end of secondary education and be considered as a necessary qualification for admission to the University.

The Intermediate College as contemplated by the Commission was to fulfil a two-fold purpose—it was to provide in the first place a training that would qualify its students for admission to the University in all its faculties secondly the training given was also to enable the students after completing their courses to enter the various practical occupations of life. The Commission outlined a variety of vocational subjects for the instruction of which arrangements were to be made in certain selected Intermediate Colleges. The Intermediate Colleges were intended to be High Secondary schools imparting vocational training in the same manner as the modern Central schools of England or the Advanced Primary schools of France. The Commission further recommended that these colleges should employ a staff of superior qualifications according to its calculations the

additional cost for maintaining these colleges, apart from building and equipment (according to the scale of salaries existing in 1918), was twenty lakhs a year³⁷ The Commission further hoped that the degree course would be extended to three years after the Intermediate

The United Provinces adopted without modification the scheme of the Intermediate Colleges as recommended by the Calcutta University Commission The Punjab established Intermediate Colleges with a two years' course, but the University continued to prescribe their courses of instruction and to conduct the Intermediate and the Matriculation Examination Some other Provinces attempted to adopt the scheme, but they gave it up after a few years' trial

The plan of the Intermediate Colleges, as outlined by the Commission, was misunderstood and its recommendations were wrongly applied The Reform Scheme came into operation soon after the publication of the report of the Calcutta University Commission, and all the available funds were devoted to the expansion of mass education The Intermediate Colleges were allowed to starve, no provision was made for vocational training, and they were in fact no better than second-grade arts colleges. They never co-ordinated the teaching in various classes the school classes were taught by the school methods and the college classes by the college methods Mr Richey says in his Quinquennial Report —

"Some of the college teachers do not care to teach school classes, while if teachers, recruited for school work, are required to teach college classes, there is some risk that the standard of instruction in these classes may deteriorate Some of the teachers have done little more than formal class lecturing and abandoned their tutorial work, thus making things worse than they were before"³⁸

The Intermediate Board in the United Provinces was established in 1922 it conducts the Intermediate and the High School examination Its Committees, of course have not the same status as those of the Allahabad University and there is a considerably weighty opinion

in the Universities of the United Provinces that the general standard of teaching and examination has gone down by the transfer of Intermediate Examination from the Universities to the Board. The Matriculation or High School examination has definitely suffered. The School Leaving Certificate examination, which used to be conducted by the Department before the establishment of the Board, was very efficient, and the Director of Public Instruction in his recent report admits that the practical difficulties of examination and administration, consequent on the increased number of institutions and candidates, led the Board to abolish both practical examination in science and oral examination in English in the High School examination. From the experience of the United Provinces of Agra and Oudh and other Provinces my individual opinion is that though the Departmental Boards are better qualified to control High Schools and to conduct the High School examinations, the Intermediate examination may well be left to the Universities who can conduct it more efficiently than the Boards. The teaching of the Intermediate classes may be conducted in a variety of ways. The Degree colleges, if they so desire, may have Intermediate classes as at present, but Intermediate students should not be allowed to overshadow the Degree students. To remove the congestion caused by a large number of junior students in Degree colleges, some selected High Schools may be permitted to open Intermediate classes as is now done in the United Provinces, or separate Intermediate Colleges may be organised as has been done in the Punjab. The Intermediate classes in each case should provide for vocational instruction on the lines recommended by the Calcutta University Commission.

The London University also permits High Schools to retain their students for Intermediate instruction.³⁰ In provinces having more than one University, like the United Provinces and Madras, the territorial jurisdiction of each University should be determined and the Intermediate colleges affiliated only to the Universities in

³⁰ See Chap. I Sec. 12 (p. 59)

List of Universities in India

University	Type	Province in which Situated	Date of Foundation	Number of Affiliated Colleges				Students	Total Expenditure in Lakhs of Rupees	Cost of University Education per head	Percentage Covered by Fees
1 Calcutta	Affiliating Teaching	Bengal	{ 1857	58	and Law			28,618	---	---	---
2 Dacca			{ 1921					1,030	---	---	---
3 Madras		Madras	{ 1857	53	Medical	1	Eng- neering	10,216	---	---	---
4 Andhra University			{ 1926						---	---	---
5 Annamalai University		Bombay	{ 1928						---	---	---
6 Bombay University			{ 1857	17	Medical	2	Eng- neering	8,001	---	---	---
	{ Affiliating Teaching and Affiliating Teaching only }	{ U P }	{ 1887						---	---	---
7 Allahabad			{ 1921						---	---	---
			{ 1926						---	---	---
8 Lucknow	Teaching		1920			1			---	---	---
9 Benares			1916			1			---	---	---
10 Aligarh			1920						---	---	---
11 Agra	Affiliating	Punjab	1928	33				7,807	---	---	---
12 Lahore University			1882	24				1,050	---	---	---
13 Mysore			1916						---	---	---
14 Patna	Affiliating	{ Bihar & Mysore }							---	---	---
	Teaching	{ Orissa Hyderabad (Deccan) }	1917			1			---	---	---
15 Osmania			1918						---	---	---
16 Rangoon			1920					706	---	---	---
17 Delhi		Delhi	1922						---	---	---

whose territorial jurisdiction they are situated. Unhealthy rivalry will thus be avoided.

SECTION 9

Universities and University Colleges

The three oldest Universities of India—Calcutta, Bombay and Madras—were established in 1858 as affiliating Universities on the model of the London University, as it was then constituted. Teaching was done entirely by colleges scattered all over the country and situated several hundred miles away from the University centres. These colleges in the Continental sense were miniature Universities but had no power to conduct examinations or to award degrees. They provided instruction and looked after the residence and general welfare of the students. The Universities determined the qualifications for admission, prescribed the courses of study, conducted the examinations and awarded degrees to successful candidates. There was nothing in this system to limit the number of colleges affiliated to a University and the growing demand of education was met not by increasing the number of Universities, but by increasing the number of affiliated colleges. Some of the affiliated colleges were over a thousand miles from the University headquarters with the result that the supervision of the University became nominal. Two more Universities—Allahabad and Punjab—of the same type were added in the eighties of the last century⁴⁰ to relieve the Calcutta University from its overgrowing size. The colleges were given the option of affiliating themselves to any of the Universities and they naturally selected the more lenient task master. This and a number of other questions were referred to the Universities Commission presided over by Raleigh which is generally known as Lord Curzon's Commission. The Commission in order to stop unhealthy rivalry, recommended territorial jurisdiction for each University. It further recommended that the Universities should undertake teaching work and appoint their own professors. A common Act

⁴⁰ The Punjab University was established in 1882 and the Allahabad University in 1887.

(called the Indian Universities Act) was framed for all Universities in 1904. The political redistribution of India in 1911, however, created new provinces and the Government of India decided in 1913 that the territorial jurisdiction of each University was to coincide with the provincial jurisdiction and this could only be secured by establishing a separate University for each of the chief provinces of India. The overgrowing size of the Universities, the slackness in supervision of instruction and examination, the difficulty of accommodation, and the competition between the University and the colleges were more marked in Calcutta than elsewhere and led to the appointment of the Calcutta University Commission, presided over by Sir Michael Sadler, which recommended the gradual replacement of affiliating Universities by unitary teaching and residential Universities with no affiliated colleges. A few teaching Universities were established immediately after the publication of the report,⁴¹ and the Allahabad University was reorganised on the lines recommended by the Calcutta University Commission.

Unitary teaching Universities of the type of modern English Universities may be established with great advantage, but affiliating Universities cannot be altogether dispensed with in a vast country like India. As Mr. Richey points out in his Quinquennial Review:—

“ Although the growth of unitary teaching universities has been a marked and satisfactory feature of the development of higher education during the past five years, there will always be in India a need for universities of the affiliating type ”⁴²

There are in India seventeen Universities at present, some of which are of the affiliating type while others are unitary teaching institutions. Some of these teaching Universities, like Cambridge and Oxford, have Colleges situated in the same town. The Benares and Aligarh Universities are denominational in the sense that all the members of their Courts must, according to their Charters, be persons of the same denomination—Hindus in the case of Benares, and Muslims in the case of

41 Dacca, Lucknow, Aligarh and Delhi

42 Richey, p. 64

Aligarh These Universities are prohibited, by their Charter, from imposing any religious test on teachers and students, regarding the appointment of teachers and the admission of students. Benares University is a teaching University, but it has the college system also and can affiliate schools all over India. Aligarh University has no college system and cannot affiliate schools outside Aligarh district. These two Universities are private Universities but receive Government grants.

There are at present eight Medical Colleges in India ⁴ which are all constituent colleges of local Universities. Six of these colleges are maintained by the State and two are private institutions receiving grants from the Government. The number does not include Lady Hardinge Medical College for Women at Delhi which is not affiliated to any University. Besides these eight colleges which train medical graduates each province has secondary schools for medical education whose diploma holders are entitled to take charge of dispensaries and hospitals. I have seen secondary technical schools in Europe and also secondary agricultural and secondary commercial schools but I never heard of secondary medical schools and secondary theological schools anywhere. The old Persian proverb has rightly warned the world against the establishment of these secondary schools.

بیم حکیم خطر، علی - ندیم خطره اندامی which means

A half educated physician is a danger to life, and a half-educated *mutla* is a danger to faith.

The existing secondary schools of medicine can all be raised to the status of medical colleges at a slight cost. The argument against such a step is that medical graduates will not care to settle down in small country places for which the students of secondary schools are more suitable. Such an argument is usually advanced by persons who are jealous about their private practice; it is certainly not valid in these days of mass education.

All medical colleges have a limited accommodation and there is a keen competition for admission. Admis

sion is regulated by the universities to which the colleges are attached. The system works well in provinces which have a single medical college and a single university; but in provinces having more than one university, it cannot work satisfactorily unless the admission is controlled either by the Minister of Education, as in France, or by a committee on which all the universities of the provinces are represented.

In several provinces, colleges for the study of Ayurvedic⁴⁴ and Unani⁴⁵ systems of medicine have been established; in the United Provinces, they are attached respectively to Benares and Aligarh Universities with the object of assimilating them with modern science. Similar proposals are under consideration in Bengal.

Some of the Engineering and Agricultural Colleges are attached to the Universities while others award their own diplomas. All the agricultural colleges are maintained by the Departments of Agriculture.

The accommodation in all the professional colleges is limited, and students who fail to secure admission are compelled to go to foreign countries, of course if they can afford the expenses. The medical colleges in India produce every year only one medical graduate for each million people.

Administration—The old affiliating Universities have four administrative bodies: (1) The Senate, which is the legislative body, and the members of which are mostly nominated by the Provincial Government; (2) The Syndicate, which is the executive body of the university and controls its finances; its members are elected mainly by the Senate; (3) Faculties elected by the Senate; (4) Department of studies for each subject appointed by the faculties. Teaching work in some universities is controlled by a separate committee. The universities have two executive officers—the Vice-Chancellor nominated by the Chancellor (the Governor of the Province), and the Registrar, appointed by the Senate. Modern teaching universities have all followed the constitutions of the

⁴⁴ Old Indian system.

⁴⁵ Greek system which was developed and practised in Islamic countries.

modern universities of England, and have a Court, an Executive Council, an Academic Council, Faculties and Departments of studies. The Vice-Chancellor is the Chairman of the Court, the Executive and the Academic Councils finances are controlled by the Government which provides funds for these universities. The Vice-Chancellor in these universities is both the academic and the executive head of the institution. The non-academic control which is exercised by the President of the Executive Council in the English Universities is here exercised by the Government. The Benares and Aligarh Universities are private institutions and their non-academic control is exercised by the Vice-Chancellor as the representative of the communities who finance the universities. The academic control is exercised by a special officer called the Pro-Vice-Chancellor. In Benares the Pro-Vice-Chancellor is the Secretary of the Court and the Executive Council and he further exercises his academic powers as the Principal of the Central Hindu College which is the nucleus of the Benares University. The Aligarh University Act unlike the Benares University Act abolished the M A O College and the Registrar acts as the Secretary of the Court and the Council. The Pro-Vice-Chancellor is not the assistant of the Vice-Chancellor.

Admission —The Matriculation examination, which students are expected to take at the age of sixteen is the qualifying examination for admission to most universities but no student can join the modern universities⁴⁶ until he has passed the Intermediate examination. The Matriculation examination of the London University, and the parallel examinations conducted by seven other authorities⁴⁷ which entitle successful candidates to admission into the British Universities are considered by the Indian Universities as equivalent to their Matriculation examination. Students who have passed these examinations can join the old universities but are not allowed admission into the modern Indian Universities, which

⁴⁶ Dacca Lucknow Aligarh and Delhi and reorganised University of Allahabad.

⁴⁷ See Chap I Sec 10 p 46

consider the Intermediate Examination alone as a necessary qualification for admission. On the other hand, most British Universities do not consider the Intermediate examination of an Indian University as equivalent to their Matriculation. They put a second class graduate and a first class Intermediate of an Indian University on the same level as their own third division matriculate. I have discussed the matter in detail in Chapter I, Section 10. I believe that a matter of this kind should be taken up by the Congress of the Universities of the British Empire.

The diversity in the standard of the Matriculation examination is as great in India as in the United Kingdom. Attention is particularly drawn to it by the Government of India in their statistical reports. The percentage of passes varies from 26.7 in Madras to 78.6 in Bengal.⁴⁸ In my opinion the high percentage of passes does not necessarily indicate a low standard of examinations. Other factors must also be taken into consideration. The percentage of passes in the European Universities is higher than the highest in India, but their standard is not challenged. The Board of Education in England has recently appointed a Standing Committee for securing an equivalence of standard.⁴⁹ A similar committee appointed by the Government of India is likely to do useful work and its advice, if unprejudiced, will always be welcome.

Accommodation — The housing of University students at present is lamentable and requires early solution. It is more serious in India than in England, as persons holding moderately responsible positions in this country, are not prepared to let out one or two rooms of their houses to students. Students can only engage unfurnished flats or houses, or live in college hostels. Some live in cheap, unhealthy and undesirable surroundings. Those who reside in rented houses have no healthy recreation for their leisure hours and not unfrequently mix in unacademic society, which is detrimental to their studies. All

⁴⁸ Richey, p. 86

⁴⁹ Chap. I, Sec. 2

universities have taken necessary precautions and framed elaborate regulations for the supervision of such students, but the regulations are rarely enforced. The real solution is ample provision of hostel accommodation charging moderate fees: its cheapness should be an inducement for the students. But unfortunately, living in hostels in India is more expensive than in lodgings. In big towns such as Calcutta, large hostels, providing accommodation to university students reading in different colleges and charging reduced fees from poor students on the lines of the German and Czech hostels at Prague, may be useful (*see p. 128*).

Degrees—The degrees awarded by the Indian universities are the same as those awarded by the English Universities. Every University has an Honours and a Pass course for the B.A. and B.Sc. examinations. The Honours courses in most universities differ from the Pass courses merely in quantity than in quality, the Honours students being required to take a few additional papers in a few more branches of the subject. On account of the peculiar system of examinations, the want of laboratories and libraries and the absence of leisure, scholarship is seldom attained and research work is only done on a moderate scale.

Reference Libraries—At present there is not a single library in India which may be compared with that of a moderate sized University in Europe. The library of a training college in Paris has 275 000 books (*see p. 201*). No library in India has the back issues of even important learned periodicals and all the standard works of eminent authors. The absence of a good reference library is keenly felt by every research student, and Indian students who have done research work in European Universities are very much handicapped on their return to this country. The Imperial Library of Calcutta, though it is the best library we have in India, is much below the mark⁶⁰. The Government of India should give large grants to this library and allow books

⁶⁰ I wanted to consult two books on Elliptic Functions; I made enquiries all over India and found that I could not consult them till I made a trip to Europe.

to be issued to College and University libraries all over India, as is done in German Universities

Medium of Instruction —On account of the peculiar position of India, the question of the medium of instruction is not so simple as it looks at the first sight. English is the only common vehicle of expression between the people of the North and of the South. Languages differ from province to province, and even in the same province several languages are spoken; and none of these languages is sufficiently developed to provide instruction in the higher branches of learning. The spoken languages have developed into literary languages since the coming of the British to this country, and English has remained the common medium of communication. Besides, English is the official language in the country, and a good command of the English language is necessary for Government appointments. The Calcutta University Commission recommended the use of English as the medium of examination and instruction in the Universities, but they were in favour of the optional use of the Vernaculars in the Matriculation examination. Several universities have now allowed the use of the Vernaculars in the Matriculation examination, and the Osmania University conducts all its teaching and examinations in the Vernacular. It is still in an experimental stage and no inference can yet be drawn. The teachers of one province are usually engaged to examine and lecture in the universities of other provinces, and not infrequently students also migrate. It is as difficult in India to choose a common Indian language as it is in Europe. Considering the present position, I am personally of opinion that the Vernacular should be the medium of instruction and examination in the primary schools and English in the universities. Option may be allowed in the secondary schools. The Vernacular will continue to be used more largely than at present; and the position will substantially alter after ten years, both on account of the changes in the political situation and on account of the development of the Provincial Vernaculars.

The universities at present are supported out of Provincial funds. I have suggested elsewhere that the

Government of India should give grants to Local Governments equivalent to half the expenditure on higher education. This grant may be given through a committee, similar to the Grants Committee in the United Kingdom, which may periodically inspect the universities in the same manner as colleges are inspected under the Act of 1904. The advice given by the Grants Committee is found to be more useful and effective than the enquiries made by Special Committees and Commissions.⁵¹

SECTION 10

Education of Women

In spite of all efforts made in recent years, the percentage of literacy among women is still very low, as will be seen from the following table —

	Females	Males
Percentage of Literates	18	18.0
Percentage of Literates in English	0.17	1.58
Total number of University students reading in Arts Colleges	1,933	70,035
Total number reading in Professional Colleges	345	17,006
Total number reading in High Schools	64,826	789,375
Total number reading in Primary Schools	1,540,281	6,707,470
Total in all institutions	1,842,850	9,815,140

The leaders of political and economic thought in India to-day are as zealous in the cause of female education as the most ardent missionaries and officials. A deputation representing all types of Indian thought drew the attention of Mr. Austen Chamberlain, Secretary of State for India, to the urgency of the need, and the Secretariat groaned for several years under the volume of notes and resolutions that were issued through this reminder.⁵² But in spite of all these efforts, the progress is very slow. The enthusiasm of the Education Department is confined to Annual Reports and Council Speeches. Serious efforts for female education have never been made and are not

51. See Chap. I Secs. 9-10.

52. Mayhew p. 265.

likely to be made, till women fight out their case themselves in Councils and local bodies. The first practical step for the spread of female education is to follow the practice of France and organise a separate branch in the office of the Director of Public Instruction under a special officer with an advisory committee. Special allotment of funds should be made for female education in Provincial, Municipal and Local Board budgets. The grant-in-aid rules for girls' schools should also be revised and put on a more liberal basis. The maximum of fifty per cent, which is offensively inconvenient for boys' schools, should be raised to a minimum of two-thirds. In most cases, the entire cost should be borne by public funds, and the efforts of the manager of the schools restricted to arrangement for conveyances, etc.

"Mixed schools," says Mr. Mayhew, late Director of Public Instruction, Central Provinces, "are always a source of anxiety and cannot be regarded as a substitute for properly organised girls' schools, though they are often more satisfactory than the usual type of girls' schools in the more remote and seldom visited villages." Boys' schools in India should be quite separate from girls' schools. Co-education may be feasible in small out-of-the-way villages, where the number of pupils does not justify the organisation of different primary schools. This is the practice in France, where female education forms a special branch in the office of the Minister of Education.

In big towns where a large number of girls are available, it will be necessary to have denominational schools, and this for three reasons: (1) Intensive propaganda is still necessary to induce the parents to send their girls to school, and such propaganda will be more fruitful in denominational schools than in mixed schools. (2) The details of house management and especially of cookery, are different for different communities, and it will not be possible in a mixed school to bring school education in harmony with home life in domestic subjects. (3) Neutrality in religious instruction has produced doubtful results in the case of boys, and will be resented in the

The supply of female teachers as discussed in Section 11 is the first essential of compulsory education. Training Colleges may be useful but they will not be able to produce women teachers as rapidly as circumstances demand. Every secondary and post primary school for girls should undertake to train at least half a dozen teachers every year. This can be done by offering attractive stipend to the candidates and special grant to the school. In the scheme of compulsory education in India, home education of girls by private lady teachers may be accepted for the time being as equivalent to school education. France was forced to recognise private instructors.

SECTION 11

Technical Education

Preliminary—The Indian Industrial Commission criticised the present tendencies of education in India in the following words —

" The system of education introduced by Government was, at the outset, mainly intended to provide for the administrative needs of the country and encouraged literary and philosophic studies to the neglect of those of a more practical character. In the result it created a disproportionate number of persons possessing a purely literary education "53

The Hunter Commission of 1882 was instructed that the extension of their enquiry in the direction of technical education would add unduly to the task before them. The Government of India, in its resolution of 18th June 1888, pointed out that the education till then provided had been too exclusively literary in its bent, and that industrial training was required in view of the necessity for securing a greater variety of occupations. The immediate result of this resolution was that the necessity for teaching science in the colleges was recognised and provision for the training of engineers was improved. On the suggestion of the conference convened by Lord Curzon in 1901, a system of technical scholarships tenable for study in England was introduced.

These scholarships were injudiciously awarded and their recipients had great difficulty in obtaining practical training. Sir Theodore Morison's Committee of 1913 stated that " concerns which possess valuable trade secrets or fear to assist possible competitors, prefer, when they admit learners, to receive men who are likely to remain their employees rather than foreigners " This difficulty is as acute today as it was fifteen years ago, and I have suggested in the next chapter how the High Commissioner of India and the Indian firms can give practical assistance by placing their orders only with firms that may be willing to take Indian apprentices.

The need for technical education of every grade is universally recognised. Mr Samuelson said —

" In conclusion I have to state my deep conviction that the people of India expect and demand of their Government the design, organisation, and execution of systematic technical education, and there is urgent need for it to bestir itself, for other nations have already sixty years' start of us and have produced several generations of educated workmen "

Pandit Madan Mohan Malaviya in his supplementary note attached to the Industrial Commission's Report said—

"The Ministry of Education has as far as possible not been able to keep a separate department of law for the education of engineers and other technical professions and has instead kept them all under the same department. I would suggest that the Director of Technical Education may be asked to consult with the Director of Technical Education and recommend changes in the constitution of the department, so as to have a separate department for technical education and higher technical education, so as to have a separate department for technical education and higher technical education."

Ten years have passed since this note was written and during this period I noticed for her Central schools, Technical schools, Agricultural Engineering schools and Germany for her Central schools, have worked out the system which Pandit Malaviya had in mind.

I have described in previous chapters the general plan of professional education of every grade with a view to their adaptation to Indian conditions. I will now describe the facilities for technical education now existing in India.

The Government has established four Engineering Colleges for the training of the engineers required for the Public Works Department (and Road and Building). These colleges provide a thorough instruction in Civil Engineering. The department of Mechanical and Electrical Engineering was added subsequently but they have never been efficient. There are altogether five engineering colleges—four of which are maintained by the Government while the fifth at Benares is under private management. All the colleges except the Thomason Civil Engineering College at Roorkee are affiliated to Universities.

These colleges admit a limited number of students and the selection is often made by a competitive written examination. Students who are not so fortunate as to secure admission into these colleges are compelled to go abroad for technical education.

11. See Chap. I, Sec. II, 112; Chap. II, Sec. 15.

12. Bengal Engineering College & Shipyard, Calcutta; Thomason Civil Engineering College, Roorkee; College of Engineering, Poona; College of Engineering, Bombay; Madras Engineering College, Madras.

The Conference of the Principals of the Engineering Colleges, held in July 1921, recommended that opportunities for the study of engineering in all its branches up to as high a standard as taught elsewhere, should be provided in the existing engineering colleges in India, that the minimum educational qualification for admission be the Intermediate Examination, that the course be raised to four years leading up to a degree in engineering from the University, and that a college diploma be awarded on the results of a further year of training. The possession of this diploma was to be an essential qualification for admission to the Indian Service of Engineers.

Next in importance are the Government Engineering Schools⁵⁶. They train overseers and sub-overseers required for subordinate posts in the Public Works Department. These schools specialise in civil engineering. Secondary technical schools for mechanical and electrical engineering have also been opened recently in various provinces. The most prominent of these institutions is the Victoria Jubilee Technical Institute, Bombay. This school has sanitary, mechanical, electrical, chemical and textile branches. The course extends over a period of four years including six months of practical training in workshop. The students have no difficulty in getting access to factories and shops. The school admits only whole-time students. Saturday classes are held for the benefit of apprentice students. The school is not affiliated to the Bombay University, but its diploma is equivalent to the B.Sc. degree. The College of Engineering and Technology (formerly known as the Bengal Technical Institute) at Jadavpur, Bengal, has been doing good work for the last twenty years. A Technological School has recently been established in Calcutta which admits only apprentice students to evening lectures; it is under a managing body and is maintained chiefly by a Provincial grant. It has a five years' course and admits 30 students every year. The MacLagan

⁵⁶ They are situated at Vizagapatam, Trichinopoly, Dacca, Patna, Lucknow, Nagpur, Rasul (Punjab) and Insein (Burma).

Institute at Mughalpura (Punjab) is a college for instruction in electrical and mechanical engineering. It is close to a railway workshop and specialises in railway engineering. The Technological Institute at Cawnpore specialises in chemical industry and is more of a research than of a teaching institution. The number of secondary technical schools is very limited and they teach but a few students at a disproportionately high cost. Their expansion on the lines of the Polytechnics in England which admit a large number of whole time and part time students engaged in a variety of industries will be both useful and economical.⁵⁷

The Department of Industries maintains a few industrial primary schools such as weaving, carpentry and dyeing schools. But their number is very limited and only a few of them are in a prosperous condition.

There are a few special technical institutions the most prominent of them being the School of Metallurgy at Jamshedpur, the Imperial School of Mines at Dhanbad and the College of Science at Bangalore (Tata Research Institute). These institutions are not affiliated to any University.

I have said in an earlier section that education in India is a transferred subject, and that all schools and colleges are maintained from provincial revenues. India is not the only country where education is controlled and financed by Provincial Governments. In Germany and America each Province and State is responsible for all forms of education and maintains schools and colleges situated within its territory. In England, all primary, secondary and technical schools and colleges lying in the territorial jurisdiction of the Boroughs and Counties are maintained by them. But in no country outside India have provincial jealousies in education developed to such a high pitch as to incite the educational institutions of one province to refuse admission to the students of another province. In India, the colleges are not provincial in the sense that they are situated in a given province or they are maintained by the Provincial

Government; they are provincial in the sense that all (or most of) the students of the colleges come from that province alone. Provincial patriotism may be a virtue, but its excess retards national progress.

Control and Finance —All Engineering Colleges of the University status and all Research Institutes should be maintained and controlled directly by the Central Government. It is a legitimate charge on the customs and taxes collected by it. Even in Switzerland, all the Technological Colleges are maintained by the Central Government, whose income is limited to customs. Duplication of work will thus be avoided and the colleges run more economically. The Government of India may also institute a system of technical scholarships, which should in every case be awarded to persons holding degrees or diplomas in Engineering, preference being given to persons who have already done practical work in a factory or shop. They should in no case be awarded to students fresh from Arts and Science Colleges.

All secondary technical schools should be maintained by the Provincial Governments. These schools should be of the same character as the Polytechnics and should provide instruction in a variety of technical and industrial subjects. They should all have the departments of sanitary, electrical and mechanical engineering and train overseers and foremen. They should also impart instruction in subjects of local industry. They should take in both whole-time and evening students—students who are working in shops in day-time as well as students who are willing to work the whole day in the school. Provision has also to be made in these polytechnics for the teaching of commercial subjects in the evening. These polytechnics should have shops of their own in certain branches and arrange with existing firms for practical training. Attempt should be made in all these schools to produce articles that have a market value. The old theory of devoting time to academic exercises in workshop has been given up.⁵³

⁵³ See Chapter I, Sec. 8. Even in Central Schools in England, boys are expected to produce complete articles in every lesson on wood work.

The most important change, the demand for which is universal, is the inclusion of technical and industrial subjects in the programme of studies in the ordinary schools. The courses of instruction in high schools are now divided into two sections: science and arts. There is a general desire that they may be divided in four sections as in the modern institutions of England, Germany and France: (a) Classical, (b) Modern or Scientific, (c) Section with Agricultural bias, (d) Section with Technical and Industrial (including Commercial) bias. The method of teaching and the text books used for teaching the same subject should be different in each of these four sections. The final examinations of the commercial and technical sections should enable the students to join universities, polytechnics or higher technical and agricultural colleges. A detailed discussion of the syllabus for each section is outside the scope of the present book. Courses prepared by other nations for each type of schools will serve as very useful guides. The courses designed to give an agricultural bias to village schools may be taken in hand first. Instruction with an industrial bias in vernacular middle schools should make students eligible to join secondary technical schools, normal schools and polytechnics. I have already explained in Chapter I that the distinction between technical and liberal education is artificial and unnecessary. Technical or realistic subjects have as much cultural value as mathematics and classics and they should be included in the ordinary programme though every school cannot of course be expected to provide instruction in all the humanistic and realistic subjects. Industrial education should go hand in hand with the development of industries. But here we come to a problem that cannot be solved without the co-operation of politicians, capitalists and educationists.

SECTION 12

Training of Teachers

The subject of the training of teachers falls naturally under two heads: (a) The training of teachers for

Secondary schools, and (b) the training of teachers for Primary schools. No college exists in India to train teachers for Normal schools on the lines of the college at St Cloud in France.

Each of these two types of institutions may be divided into two sub-classes, the higher and the lower. For Anglo-Vernacular teachers (or teachers for secondary schools), higher grade training classes offer a nine months' course, open to university graduates and leading to a University degree, the lower grade training classes admit undergraduates to a nine months' course, a certificate being awarded at the end of the course. In some provinces a student, who has not passed the Intermediate Examination, is kept in the lower grade training classes for two academic years instead of being allowed a nine months' course.

A training college exists in every province, Bengal and Madras having two each. The higher grade and lower grade classes are held in one and the same college, except in the United Provinces where the two classes are held in separate institutions. This separation is financially unsound and of doubtful academic utility. It aggravates the difference in social status of the teachers employed in the same school. The presence of two classes of teachers trained in different atmospheres and with different outlooks affects the *esprit de corps* of the High Schools in which they may have to teach. The degree and diploma classes are not organised in separate colleges in the United Kingdom. This separation of the two courses in the United Provinces is the result of personal oddities and past history rather than of a sound conception of efficiency in training.

The courses of instruction include only the theory and practice of teaching, the study of school subjects being excluded from the curriculum. No student of the training college is permitted to read for the M A course, but students who have already passed the M A Examination have greater facilities for admission. The training colleges attempt no new educational experiments. They do not even teach modern theories of education. The Indian system of education is a fifty-year old

system. The training colleges make no attempt to teach modern theories of education instruction in the history of education ending with Herbert Spencer. New types of schools which I have briefly referred to in previous sections are unknown to the students of training colleges, who do not carry with them any enthusiasm for striking new ground. There exists at present a great demand for kindergarden education, and it is expected that the training colleges of every province will work out a system suited to the surroundings of the children within their jurisdiction. The absence of initiative in the training colleges coupled with the mechanical and routine-like nature of the inspections, is the principal cause of the monotonous system of education described in the previous sections.

The Bengal Retrenchment Committee adversely criticised the system of training colleges and, in recommending their abolition declared that a teacher's own capacity and education were his chief qualifications and that training made little or no difference. The Government of Bengal fortunately did not accept the recommendation of the Retrenchment Committee. Mr Zachariah in his Review⁵⁹ says —

What is learned at the training college often remains theoretical and unassimilated and regarded merely as necessary for a degree which has a commercial value and not as having any direct bearing on the daily routine of the teacher's task.

This opinion is shared by other educationists. It is due however not to any intrinsic defect in the system of training in general but to the system we are following in India. In Europe training colleges plan out the needful system of education at least a decade ahead whereas we in India remain content with a system that elsewhere became obsolete long ago.

Training of Teachers for Primary Schools — The provinces vary widely in the qualifications required of the candidates for training, in the character of the institutions in which training is given and the length of the training courses. Generally speaking they are divided under two heads (a) Higher grade training schools,

sometimes called Normal schools, which train teachers for post-primary vernacular schools, and (b) Lower grade training schools, known as Central training schools in the United Provinces, and Guru and *Moadalem* training schools in Bengal, which train teachers mostly for village primary schools

The number of such schools shows marked disparity in the different provinces —

Madras, 130, Bombay, 23, Bengal, 108; United Provinces, 440, Punjab, 18, Burma, 52, Bihar and Orissa, 127; Central Provinces and Berar, 12, Assam, 8; North-West Frontier, 4, Minor Administrations, 4

The disproportionately large number of 440 schools in the United Provinces is due to the peculiar method of the training followed there. Eight students, whom it is desired to train, are brought to a post-primary school, called the Vernacular Middle School, for a period of nine months and an extra master is given to this school to train them. The efficiency of this system is very doubtful. There exists a gap of four or five years in the education of the teachers in this province. Boys leave Vernacular Middle Schools at the age of fourteen and they can neither join training schools, nor act as teachers, till they are eighteen. In some provinces, Assam being one of them, Normal school course extends over a period of three years and it includes the study of school subjects. It is desirable that Normal school course should extend over a period of three to four years and should include technical subjects. Boys should be admitted soon after passing the Vernacular Middle or a higher examination. Village school teachers should receive training in practical agriculture in Government farms or in agricultural colleges.

SECTION 13

Inspection

The Magistrate of Jessore, in his report on Bengal Primary Education, voiced the opinion of the vast majority of the Indian people when he said —

“ I am afraid as soon as the rural schools come into existence, the Education Department will make out a case for a

large inspecting staff who will eat up a big slice off the Education Fund. My intention in dilating on this aspect is to emphasise the point that primary education can be made free at a smaller cost if it is carried on more or less on primitive lines without the unnecessary intervention of Government experts who very often are more embarrassing than helpful. The less Western or foreign innovations are made in primary education in India the smoother will be its progress.⁶⁰

The chief object of the Inspector should be to impart a knowledge of the method of teaching and class management to the teachers rather than to test the progress of the pupils and to supervise the condition of the school. In practice we find that they visit schools in a mechanical way, write short reports and collect returns for the District Inspectors, on the basis of which the District Boards distribute their grants.⁶¹

In European countries, as I have described in the previous chapters, the Inspector teaches the class in the presence of the teachers, holds conferences of teachers in his own circle, encourages the teachers to carry on new experiments in educational methods and takes them to schools where new experiments are being made. The Inspector goes to the school not as an undesirable intruder but as a sympathetic friend. The inspectional staff in India is the principal agency for killing innovations, spoiling new experiments in school education and keeping everything on the same permanent pattern.

I have discussed in a previous chapter the question whether an Inspector of Schools should himself have experience of teaching in the schools of the type he is required to inspect or, in other words, whether the Inspectors should be promoted from the rank of Head Masters. Opinion on this point is not decisive either in India or in European countries. A young intelligent man of good education is sometimes found to be more efficient in his work than a person of advanced age who has been accustomed to moving in a groove.

In every division in India, there is an Inspector of Schools who is in charge of educational institutions of every grade except Universities and University Colleges,

60 Richer, p. 142.

61 Report of the Bengal Retrenchment Committee.

that are in his division. He is the connecting link between the schools and the Director of Public Instruction. He visits every High School in his division at least once, and surveys one or two districts of his division very thoroughly every year. He has an Assistant, who is in charge of primary education and occasionally assists his superior in the latter's inspection of the secondary schools. Each district has a Deputy Inspector of Schools, who is the educational adviser of the local authorities. He is a Government officer, and his work is very similar to the Inspectors of 'Departments' in France. Each Deputy Inspector has several Sub-Deputy Inspectors working under him. They inspect primary schools in a given locality and rural education entirely hinges on them. The Deputy and Sub-Deputy Inspectors select candidates for the Normal schools, but they have no hand in the public examinations, which are conducted by the Director of Public Instruction, on the advice of a special committee.

It should be frankly acknowledged that the Inspector of Schools and his assistants are very much overworked at present. They have no leisure to initiate a new scheme or watch the progress in experimental schools. Some relief is necessary, and I have suggested that the Inspecting staff for primary and secondary schools should be separated, and an additional assistant should be appointed wherever necessary.

In order to change the Indian system of inspection and to bring it into the line followed in the West, it would be desirable for each province, either simply or in co-operation with other provinces, to invite, from time to time, educationists of eminence from Europe, who may hold conferences of teachers, inspectors and parents and give advice on the improvement, organisation, teaching and inspection of our primary and secondary schools. The Universities, from time to time, invite specialists in various subjects included in the University courses, but advice on teaching and inspection is outside their domain. Steps in this direction can only be taken by the Education Departments.

SECTION 14

Salaries and Pensions

The posts in the Education Department may be divided into three classes the salaries of officers in each class being fixed on a different scale (1) Posts held by British Officers In order to attract suitable men from Great Britain very high salaries are offered than those prevalent in England Indian Officers of the same qualification, who form about 40 per cent of the whole cadre are also paid on the same scale This service is usually called the Indian Educational Service Indian Officers in this service hold European degrees though a few have been promoted to this grade after approved work (2) Posts held by persons holding degrees of Indian Universities This service is called Provincial Service and is divided into two grades Officers in this service are eligible for promotion to the first category after approved work (3) Posts held by persons not having any knowledge of English The salaries in this grade are lower than those of artisans and labourers

The scales of salaries of the several classes as given below will speak for themselves —

Inspectors of High Schools and Professors and other officers (Indian Educational Service)	£675 to £1 575 a year
Assistant Inspectors and Head Masters of High Schools (Provincial Service)	£270 to £300 a year
Upper grade teachers in High Schools (Subordinate Provincial Service)	£180 to £360 a year
Graduate teachers (Subordinate Provincial Service)	£90 to £270 a year
Undergraduate teachers in High Schools	£45 to £90 a year
Head Masters of Upper Primary Schools (Vernacular Middle Schools)	£35 to £54 a year
Head Masters of Primary Schools	£20 a year
Assistant Masters of Primary Schools	£9 to £11 a year

If an officer dies in the service of the State his widow and children do not get any maintenance allowance

Government servants are entitled to a pension, the maximum amount of which is one-half of the average of last five years' salary; it is calculated by the formula average of 5 years' salary multiplied by the number of years of service and divided by 30. The disparity between the highest and the lowest salary is very remarkable. In some Universities, the salaries of the Vice-Chancellor (including bonus contributions) exceed £4,000 a year.

SECTION 15

System of Examinations

The English system of examinations, which the Indian Examination Boards have attempted to imitate, has already been described in Chapter I, Section 17. The Government of India in their *Educational Policy* of 1904 said —

“ Examinations as now understood are believed to have been unknown as an instrument of general education in Ancient India, nor do they figure prominently in the Despatch of 1854. In recent years they have grown to extravagant dimensions and their influence has been allowed to dominate the whole system of education in India, with the result that instruction is confined within the rigid frame-work of prescribed courses, that all forms of training which do not admit of being tested by examinations are liable to be neglected, and that teachers and pupils are tempted to concentrate their energies not so much upon genuine study as upon the questions likely to be set by the examiners ”

The dimensions that were regarded as extravagant in 1904 have now been trebled. The Government took no effective steps to stop the evil. On the contrary, they have perpetuated the system by inaugurating their own competitive examinations, which will ultimately dominate the University examinations. The Calcutta University Commission critically examined every detail of University examinations and made some minor recommendations to prevent the clogging of the machinery. The most important of their recommendations was the establishment of the Boards of Examination, which were to serve “as the auditors of the examination system, and as the conscience of the Universities ”. They were to publish typical specimens of complete examination answers. They were to maintain continuous watchful-

ness upon the method and use of examinations and to ensure that they were not so mechanically conducted as to exercise a harmful influence upon teaching and study. These Boards were intended to be similar to the one recently set up by the Board of Education in England.⁶² A Board of the type recommended by the Calcutta University Commission has not been set up by any University. Besides the establishment of the Board and the oiling of the machine, the Calcutta University Commission recommended no radical change in the system of examinations. They recognised the evils of cramming, the mechanical character of the examinations and the wastage of a quarter of a year in the great suspense for examination results, but they did not make the bold suggestion of giving up the imitation of the English system altogether and the adoption of an entirely new method. I have described the different systems of examinations in the previous chapters⁶³ and I strongly believe that the system which the Italians have recently established will, with slight modifications, be found most suitable for India. In post-graduate examinations the German system may be followed. The Government of India or an enterprising Minister of Education may appoint a committee to visit European countries and authoritatively report on this question and suggest a system that suits the present conditions in India.

The nature of the Indian examinations is such that the crunning of lecture-notes and compendiums is essential for success, and this fact is officially recognised. A few weeks before the examinations students are allowed 'Preparation leave' extending from two to six weeks, to allow the students to sit in their rooms and cram the notes. The process of cramming extends even to post graduate examinations. In the English system of examinations, as pointed out in Chapter I Section 17, the examiners and examinees do not know each other, which is the reverse of the practice followed on the Continent.

⁶² See Chap. I Secs 2-9

⁶³ English System—Chap. I, Sec 17; German System—Chap. II Sec. 10; French System—Chap. III Sec 10; Italian System—Chap. III, Sec. 11

Several examining bodies in India adopt an intermediate position of an untenable nature. The names of the examiners are kept confidential, but the names of the examinees are given to the examiners even in the examinations where no oral test is held.

It seems desirable that every question paper should be set and every answer book examined by at least two examiners. I am not aware of any public examination outside India where the examination of answer books is left to the idiosyncracies of a single individual. The manner of conducting the M A examination has lately improved in some Universities and a Board consisting of not less than two persons (one being an outsider) is appointed to set papers and to evaluate answer books. This system should be adopted by all examining authorities in conducting their examinations.⁶⁴

There exists no uniformity about the minimum standard required for a pass, and vast divergence in the percentage of passes is inevitable, as will be seen from the following figures for 1921-22 given by Richey —

Results of the Examinations at the Conclusion of the Secondary Course (Matriculation and School Leaving Certificate Examinations)

Province	Candidates Appeared	Candidates Passed
Madras	11,216	11,123
Bombay	6,086	3,058
Bengal	18,076	14,200
United Provinces	6,126	2,954
Punjab	7,195	5,086
Bihar and Orissa	3,825	1,837

These figures alone do not entitle us to draw any inference, but they are quoted by the Education Department against the Universities that are in disfavour. It seems desirable that a University Examination Committee, similar to the High School Education Committee set up by the Board of Education in England, should be appointed by the Government of India. This Committee

⁶⁴ An examiner in one of the Indian Universities allotted marks without examining answer books and he gave the same marks to all the candidates whose names were printed on the same page of the mark sheet.

should not only check the statistics but actually examine the question papers, answer books and instructions given to the examiners. This Committee will also remove the suspicion against the Universities engendered in the minds of the parents consequent upon everything relating to the examination being kept confidential from the public.

To secure uniformity of standard is another difficult problem. Some Universities employ so many as 50 sub-examiners for some of the papers and it is difficult for the Head Examiner to secure uniformity. The Punjab University tried without success the novel method of allotting to the sub-examiners the answers of one and the same question and not the complete answer books of the candidates. All the sub-examiners sat together and each examiner examined the answer to one question of all the candidates. The process became entirely mechanical and the examiners after reading the same thing over and over again for five hours could not differentiate between correct and incorrect answers. In India and in England ingenious but ineffective methods have been devised from time to time to overcome the weak points of the examination system. The real solution as I have repeatedly emphasised is not mere patch work but a radical change of the system.

SECTION 16

New Educational Experiments

I have shown in the previous sections that on account of the mechanical nature of inspection, the absence of modern methods of teaching and the lack of initiative in the training colleges there are comparatively few experimental schools in India. The most famous of all institutions started on distinctively new lines is the

Visva Bharati University of Dr Rabindranath Tagore at Bolpur (Bengal). This University is widely known outside India and is very popular in Central Europe on account of the impression that it is attempting to develop the spiritual aspect of education which

materialistic tendencies have overshadowed in Europe and America

One of the Professors of education in Germany told me that, while India has to learn from Europe the application of knowledge to the material well-being of the people, Europe, on the other hand, has to learn from India the development of the spiritual side in the general plan of education. The simultaneous development of the practical and spiritual sides or the combination of the old and new systems of education, is agitating the mind of every thinker. Mr Littlehailes, in his Convocation Address, said —

“ Is it not possible for the older system to absorb the principles of rational teaching and to develop its methods of instruction in accordance with the gradual evolution of the thoughts, manners and customs of the India of to-day? Is it not possible for the newer system to base its principles of instruction upon religion or ethics and to implant in the youth of to-day the spirit of obedience and of respect for authority, tradition and custom ”

The fusion of the Eastern and Western cultures, and the study of the evolution of thought from the world viewpoint are among the principal objects of the Visva-Bharati. The objects, as laid down in its Memorandum of Association, are —

“ To study the mind of man in its realisation of different aspects of truth from diverse points of view

“ To bring into more intimate relation with one another, through patient study and research, the different cultures of the East on the basis of their underlying unity

“ To approach the West from the standpoint of such a unity of the life and thought of Asia

“ To seek and realise, in a common fellowship of study, the meeting of the East and the West and thus ultimately to strengthen the fundamental conditions of world-peace through the establishment of free communication of ideas between the two hemispheres ”

This University has attracted a fair number of students from outside India and is very similar to Monsieur Ottelet's “ World University ” at Brussels ⁶⁵

⁶⁵ This University will be transferred from Brussels to Geneva in 1930. Mr Banchera Branford has also suggested a World University to be located in an island. Its object will be to re-write world history as well as to re-write it, to fix a universal origin for world history dates, to organise a truly representative world library, to select from ancient and existing languages a world language, and to train world arbitrators

different languages. The experiment was first tried in three middle classes and gradually extended to the whole school. Monthly assignments were prepared and given to the boys. They aimed at (a) indicating to the pupils the amount of work they were expected to do in a month, (b) pointing out the important things to be mastered and the difficulties to be encountered, and (c) demanding real preparation and thought.

The class rooms were changed into laboratories and students were allowed to stay in one class room as long as they liked. Change was permissible at the end of each period of 45 minutes' duration. The subject-laboratories were a great success, and visitors were impressed by the unmistakable atmosphere of study. Teachers were also pleased with the work, and the boys, of their own accord, spent most of their time in studying the subjects in which they were weak. I visited the school myself. The boys have regular class instruction for a few hours in the morning, and the Dalton Plan is followed only in the afternoon. It is really an improved form of the preparation classes held in English Public Schools.

The Dalton Plan has now been further tried in Primary schools in Assam and has also been adapted to the teaching of plural classes in a Primary school. This method has proved a success, it is claimed (though more experiments in different provinces are necessary to establish the claim) that it is the true solution of the wastage and stagnation I have referred to in a previous section. In Assam 14 boys out of 100 manage to reach Class IV, the remaining 86 lapse into illiteracy.⁶⁷ The wastage, it is asserted, is smaller in the two schools in which experiments are being made.⁶⁸

Moga⁶⁹ Training School for Village Teachers.—The school was established by the Presbyterian Church of the U. S. A., as a part of its work for the uplift of the out-castes of the Punjab, who are turning to Christianity. The work is now under the direction of a Board, in which

67 The wastage for the whole of India is 81 per cent, see Sec. 6.

68 *Some Experiments in Indian Education*, by Richey, p. 80.

69 It is a town in Ferozepur District, Punjab.

the Indian Church shares responsibility equally with the Mission. The school is intended primarily to train teachers for Mission village schools. Non Christians are also admitted. The success of the experiment is due to the encouragement and support of the Punjab Education Department. The school is recognised by the Department as an experimental school and is allowed the freedom to work out a curriculum suited to rural conditions. The Department has not only given much help through its advice and interest but has arranged for a special examination on the Moga Normal Course Syllabus which is recognised as equivalent to the Junior Vernacular Training Certificate. The public will not realise the value of a new educational experiment until it is recognised by Government as equivalent to the corresponding examination conducted by Government themselves. Instruction in this school is given by the project method that is by a mental activity in which pupils whole heartedly engage themselves because they have on their own initiative proposed and planned it. They use the project method in every phase of education such as the village and home project the vegetable shop project Moga school project hospital project. The students take a large degree of responsibility in the general management of the school. The *Panchayat* is the governing committee of the student body. The members of the *Panchayat* are elected by the boys from amongst themselves. The mode of living is as simple and as close to village conditions as possible. The boys do their own cooking washing and mending. They look after the cattle and keep the grounds in order.

As explained in a previous section, the Punjab Education Department has established its own community schools on these lines.

SECTION 17

General Plan of Education

The general plan of the educational systems of England, Germany, and France has been outlined in the

previous chapters. On account of the absence of any system, such a description of the educational ladder in India is not possible. I have to content myself with drawing a plan of education, which it may be possible to materialise in India in the near future.

Education should be free and compulsory from the age of six to the age of ten. Schools in which compulsory instruction is given may be called Primary schools, and, like Unitary schools in Germany (p. 94) should be the same for all. The existing High Schools need not make any provision for instruction in the first four classes, which should be left entirely to the Unitary Primary schools. Some of these schools may have infant classes attached to them, as is the case in France and England.

Compulsory education, for the present, may end at the age of ten, and children should be permitted to withdraw earlier if they pass a voluntary (not compulsory) examination, as is done in France. The examination may be conducted by the Head Masters of advanced Primary schools under the general supervision of Sub-Deputy Inspectors. Text books should be different in different types of schools. Schools in rural areas may give instruction with an agricultural bias. The majority of the children will leave school at the age of ten; those who wish to continue their studies further—and their number is sure to go on increasing—may be sent to one of the two types of schools, now called Vernacular and Anglo-Vernacular Schools. These names owed their origin to the fact that the medium of instruction in the former was the Vernacular and in the latter English. This distinction is no longer necessary.

The first type of schools, which are sometimes called Tahsil Schools, may be organised on the lines of the Central Schools of England or the Advanced Primary Schools of France. The medium of instruction should be the Vernacular, but English may be introduced as an optional subject. The course of instruction should extend over a period of four years, and children divided into four sections as in the Central Schools in England, and the Advanced Primary Schools in France—(1) Gene-

ral, (2) Agricultural (3) Commercial (4) Technical and Industrial. In the last three sections, courses may include subjects of general study but the major portion of time should be spent on agricultural commercial and industrial subjects. A large number of boys from these Taluk Schools will enter business at the age fourteen, but provision should be made to enable some of them to join the Secondary Schools of Agriculture Commerce and Industry. This instruction may be provided in separate schools, polytechnics or professional colleges. The Lion Schools of Bombay described in Section 6 may be taken as the type of Secondary Agricultural Schools. The Secondary Schools for commercial and industrial teaching should be organised on the lines of the Trade Schools of England and France. Provision should also be made as at present for students of the general section to join Universities by attending special classes in High Schools for a period of three years.

Some of the students from these schools would like to join Normal Schools. The courses of instruction in Normal Schools should be modified. They should all admit children at the age of fourteen or fifteen and keep them for three years. The instruction should not be limited to the theory and practice in teaching as is now done in most provinces but should—as in France and Germany—include instruction in school subjects and also in professional and technical subjects such as wood-work gardening agriculture.

We come now to the education of wealthy boys who join High Schools at the age of ten. These schools may have six classes as at present from Class V to Class X. English should be a compulsory subject for study but the medium of instruction in most subjects should be the Vernacular. The technical terms should be English.⁷⁰ Courses in the High Schools may be divided into two main groups—humanistic and realistic⁷¹ (discussed in

70 All technical terms are derived from the English, Arabic or Sanskrit language. Arabic and Sanskrit technical terms are as unfamiliar as English technical terms are for non-classical students.

71 The old division into liberal and technical or cultural and utilitarian is not correct and the two sides of human knowledge may be called humanistic and realistic sciences.

Chapter I); several options should be offered under each of these two groups. Both these groups should lead to the High School examination. The Education Department should conduct this examination according to the Italian System (see Chap III, Sec 11) the examination should not be centralised as in the English System.

Some of these High Schools may retain their students two years longer, as is done in the *Lycées* of France and Secondary Schools of England, and prepare them for admission to professional and technical colleges, and also for the Intermediate Examination of Universities (p 59). A number of the students after passing the High School examination will leave the school and either enter life or join a degree college of some University. The Intermediate Examination is really parallel to the admission examination in every European country, but the experience of the last ten years has shown that it will take some time before we can raise the general level of school education by two years. It must necessarily be accompanied by a rise in the educational standard all round, including the age-limit for compulsory education from ten to twelve years.

I have described the organisation of an ideal University on Page 52. The teaching, coaching and supervision of examinations in the Universities should be on the English lines up to the B A degree. The German methods should be followed in the instruction and examination of post-graduate students. The most important change needed in the system is a change in the educational ideal. The programme of education should not be drawn up for, and its efficiency tested by, the exclusive requirements of Government services. The aim should be higher schools and colleges should be the training ground for citizens competent to undertake all responsibilities for the successful development of future India.

The courses of studies for girls' secondary schools and for girls' post-primary schools should be separate

from those of boys and their examination conducted by separate authorities. For purposes of service and for admission to Universities and Colleges the final examinations of girls' high schools as in France and Germany should have the same value as those for boys and it will be also desirable to call them by the same name. The duration of courses for girls' schools should be the same as for boys, but the syllabus and examinations should be separate.

CHAPTER V

CONCLUSION

SECTION 1

General Advice to Students

On account of the insufficient provision in our country for research work in literary subjects and for technical and professional education Indian students are compelled to go to foreign countries for advanced study. Indian Universities have made ample provision for the study of law, but membership of the Inns of Court in London gives a higher professional status. The provision for medical education in India is insufficient. The nine medical colleges of India train on an average one medical graduate each year for every million of population. The engineering colleges of University status admit about 450 students every year which is hopelessly inadequate for a country nearly as large as Europe itself. The possibilities for industrial and commercial education are still more limited. Persons who desire to obtain technical and professional education and are not fortunate enough to be included amongst those who are admitted must necessarily seek education outside India, of course, if they can arrange for the heavy expenses necessary therefor. Most of the Indian students naturally go to the United Kingdom for three reasons. (1) They are not required to learn a new foreign language. (2) they have friends in the United Kingdom and do not feel themselves entirely in a strange country. (3) they can secure Government employment more readily if they hold degrees from British Universities.

Till a few years ago the Intermediate and even the Matriculation examination of an Indian University was accepted by the British Universities as a sufficient qualification for admission. But almost all the Universities have recently raised their standard for admission. They now admit without any further test Indian students who

have passed the Intermediate Examination in the First Division, or the B A Examination with Honours. Some modern Universities admit every student who has passed the Intermediate Examination, without any restriction as to division. Students who are not qualified for admission are required to pass one of the examinations mentioned in Chapter 1, Section 11. The students who are above 21 years of age are required to pass an easier examination¹

Accommodation in British Universities is very limited, and every College and University decides beforehand as to the number of Indian students it is going to admit.

Research students are always counted as extras and have no serious difficulty in securing admission to any University. In several Universities, the High Commissioner for India has appointed an Adviser to Indian students, but he is not in a position to help Indian students in securing admission. He can, however, prevent the admission of any student. Students who desire to go to England should study carefully the "Handbook for Indian Students" compiled by the High Commissioner for India. The latest edition is a great improvement. They should choose the college they desire to enter and send applications through the Principals of their own college to the Head of the Institution in England. A duplicate copy should also be sent to the Adviser to Indian Students, specially if admission is sought in Cambridge or Oxford.

It would be advisable for parents to send their sons to England either after they have qualified themselves for admission to an English University or while they are young enough to join a public school. If circumstances compel a person to send his son at an intermediate age, it would be necessary to put him under a private coach, who may prepare him for the Matriculation Examination of the University. This is the most critical period in a

1. Students who are above nineteen years of age are examined by the London University summarily under Statute 116, in lieu of the full ordinary Matriculation Examination. This summary examination is popularly known as "One One Six Examination."

student's life and every effort should be made to find a good coach. During the coaching period the boy should not be permitted to reside in the University towns but live with his coach in a country place. The advice of retired British officers and of Indian friends who are now in England is very useful in the selection of a coach and general guardian but the student should in every case be handed over to a professional coach till he joins a University. It is not advisable for him to reside with friends for reasons of economy it will be cheaper for him to stay on in India and qualify for admission before going to England. Coaching institutions to prepare candidates for admission examinations of various British Universities exist all over the country. They are generally maintained by retired teachers of public schools, clergymen and old graduates of Oxford and Cambridge. There exist also private boarding schools which admit a limited number of students. Some of these institutions take two or three students only others admit a large number. The latter have one or two assistant masters. The fees including full board and lodging vary from £4 to £8 a week and depend on the time required for coaching. The usual fee is 7s per lesson of one hour. It is desirable to select a coaching institution on the advice of the tutor of the college a candidate has decided to join. The Secretary of the Central Advisory Committee also keeps the addresses of coaches.

On account of the limited accommodation in British Colleges and Universities it will be necessary for those who are unable to secure admission to any institution in Great Britain to go to Continental Universities where the condition of admission for a foreigner is very simple. He has only to prove that he possesses qualifications required for admission to a University of his own country. In certain aspects of education, as explained in previous chapters these Universities are more advanced than British. The facilities for practical work in factories are comparatively greater than in England. The expenses of education in Germany are about two-thirds and in France about half, of the expenses for corresponding edu-

cation in England To Indian students, countries on the Continent are more foreign than England, and it is desirable that students, who go to foreign countries, should be more mature in age and possess higher qualifications to derive benefit from their stay in those countries There is the language difficulty, no doubt, but it is not a serious one It may be difficult to learn French, German and Italian in India, for want of facilities of instruction; but a person living in a country, where the language is, so to say, forced upon him every moment through all his senses, should be able to read a simple book in the foreign language in four months and to follow the lectures delivered in the University in six months Knowledge of one or more European languages, besides English, is necessary for students in every branch of advanced study, and the time spent in studying an additional language should not be considered as wasted. Research students are welcome in every University in Europe, specially those who are carrying on research in an Oriental subject. The facilities for research are much greater in European Universities than they are now, or are likely to be in near future, in India. In spite of over-concentration in technical and industrial education, the European Universities, and specially German Universities, are not neglecting the study and research in cultural subjects

I have been repeatedly asked by Indian students to advise them as to what country they should go to and what subject they should study It is a difficult question to answer Good institutions providing instructions in technical, professional, and cultural subjects exist in every country I would refer them to the third volume of *Minerva*,² where they will find an account of all the institutions in Europe arranged subject by subject. For a description of Schools and Colleges in England, he can find no better book than the "Handbook of information for Indian Students" prepared by the High Commissioner for India. Further information may be obtained from the office of the Universities of the Empire, 50 Russell Square, London, W C. 1. Information about public schools and other educational matters may be obtained

2 It is in the German language

from the Secretary of Enquiries and Report, Board of Education, Whitehall, London. Information about any aspect of education in Germany may be obtained from Professor Dr. Karl Remme, Direktor des Akademischen Auskunftsamts, 4 Unter-den-Linden, Berlin. Professor Remme has published a handbook in the English language on higher instruction in Germany. The Indian Society³ in Paris, as I have said before, is contemplating the publication of a handbook in the English language on education in France on the lines of the Handbook compiled by the High Commissioner for India. In the meantime useful information may be obtained from Bureau de renseignement Sorbonne Paris. For information regarding the Italian Universities reference may be made to the Rector of the University of Rome. An International Education Bureau, which has undertaken to supply necessary information about all the Universities in the world, is being established in India.³

The University terms in England begin in October and it is, therefore, desirable that students should go to England in September, or much earlier, if admission has not previously been secured. The University terms in the Continental Universities begin on the first of November.

I will now give a few practical suggestions for the benefit of the Indian student who has made up his mind to go to Europe. He should clearly understand that carrying heavy luggage is very expensive in Europe. His residential room in Europe will not be large enough to accommodate big cases. His best Indian suits will be considered shabby in London and he himself will be delighted to get rid of them. He should therefore take with him just enough for the journey.⁴

3 Apply to its Secretary Mr H. L. Bhargwa, N. K. Residence Locknow.

4 (1) Two suits, one black and one of light colour for travelling. (2) six shirts. (3) a dozen collars. (4) one overcoat, (5) socks, handkerchiefs and ties. (6) sporting dress including rubber-sole shoes and a pair of slippers. (7) woolen and cotton undergarments. (8) books and articles of personal use and amusement, (9) a blanket. (10) two sleeping suits. a deck chair which can be purchased on the boat. (11) a good Indian dress including a good head-dress, which will be exceedingly useful. The selected Indian dress should rather be gaudy than sober. Boben dresses such as a Turkish or a felt cap and a closed-collar coat, short or long, will be unnecessary.

The moment he gets into the boat, he will find that he will not require his own beddings and towels till he comes back to India. They are supplied everywhere by the lodging houses and hotels. Passports have now become necessary for travelling outside India. Application for the passport should be made through the district officer. It will be convenient if all the principal European countries are entered in the passport. This will not entail any extra cost. He may have to travel in Europe later on, and it will be convenient if these countries are mentioned in the passport beforehand.

The passage may be booked through any agent. It will be convenient and cheaper to get railway tickets direct to London from Bombay specially if it is intended to travel by an Italian line. The actual price of a railway ticket from Genoa or Trieste to London is more than that charged from the passenger in Bombay, and the Italian Shipping Company has to pay the Railway Companies for their loss in the price of each ticket purchased in Bombay at reduced rates. These Railway tickets are issued by the direct route, but they can be changed at the destination of the steamer and be made available by other routes on extra payment.

On his first arrival in England, every Indian student finds it difficult to accommodate himself to the European modes of life. An interesting book could be written on the mistakes made by Indian students on their arrival in England. It is best to arrange with some friend, who might meet him at the Railway station in London and with whom he may be able to stay for at least a week. If he does not know any one in London, he should go either to the Indian Home, 21 Cromwell Road (W 7) or to the Y M C A, 12 Gower Street, Russell Square, W C 1. If a telegram is sent to either of these places a few days earlier, they will send some one to meet the new arrival at the station.

Equipment —It is a common practice among Indian students to spend a large sum of money on expensive

5 London has more than a dozen central stations. The name of the Railway station should always be mentioned. Bombay has two central stations, the Victoria Terminus and Colaba, and it is necessary to mention the station for Delhi passengers.

clothes and other equipments. This is a mistake. It is best to go in for ordinary suits in the beginning and wait for more expensive clothes till one has settled down in the University. Other things should be purchased when required and not in advance. Storing them is a great nuisance.

The social status of a person in Europe is judged not by his parentage but by his style of living and money judiciously spent will enable a man to mix in better society. I give below the maximum and minimum expenses which in my opinion an Indian student studying in Europe may reasonably be allowed. An allowance below the lower limit will not allow him to travel in Europe or to see anything outside his books and class room expenditure above the upper limit will mean wastage and loss of time. University fees are usually charged not by months but by terms money should be sent quarterly in advance and a reserve kept to meet emergencies.

For Oxford and Cambridge	£250 to £400 a year
For London	£300 to £400 a year
For other Universities in the United Kingdom	£200 to £300 a year
For German Universities	£175 to £275 a year
For the Paris University and Italian Universities	£150 to £250 a year
For French Universities outside Paris	£125 to £200 a year

A student of mature years and of economic habits will be able to reduce his expenses considerably below the minimum. Agricultural education is cheaper by £25 a year.

In British Universities Indian students are eligible for scholarships just like other students. These are usually awarded on the result of examinations but one cannot count upon them. They are merit scholarships and not stipends awarded on the pecuniary condition of students. Stipends given by Local Education Authorities are naturally reserved for students of their own locality. In Germany the Students Co-operative Association awards loans free meals and other facilities to Indian students in the same manner as to German

students The amount of loan, which is advanced at 3 per cent interest, covers the major portion of the total expenditure The Co-opreative Association will award loans on the recommendation of some recognised body in India, which can undertake to realise their money on the receipient's entering life This Association, as I have explained in Chapter II, Section 13, has also undertaken to help the Indian students in finding a good home at moderate expenses during vacations and to introduce them to factories and workshops for practical work in Engineering subjects There are a few Trusts in Germany which give pecuniary assistance to foreign students

The Italian Universities have very much improved since the War and have a large number of stipends and bursaries for foreign students at their disposal. Students are allowed to travel at reduced rates on Continental railways, and half of the fare, which they may have paid on the occasion of their first travelling, is refunded if demand is made after joining the University This concession is usually allowed on internal but not on foreign railways ⁶

Travelling and seeing the world is an education in itself, and every Indian student going to Europe should make it a point to see two or three countries and study at least one more European language besides English. Knowledge of a second European language will not only be useful to him in his own subject of study, but is also necessary for general culture and Continental travelling

SECTION 2

Practical Training in Workshops

Technical education, like medical education, to be at all useful, should extend over a period of five or six years and should include both theory and practice—factory work in technical, and hospital attendance in medical education All medical colleges provide hospital training to their students, but technical colleges leave

⁶ A student who joins a German University will get concession for travelling in German but not in French and Italian territories

the students to their own resources in finding factories and workshops for practical training. Access to workshops and factories is difficult for every student and necessarily more so for a foreigner. It is easy for an Indian student to obtain a degree in Engineering but the degree is not of much practical value unless followed by practical work in factories and shops for a considerable period.

Our system of technical scholarships for a period of two years cannot be very useful and to award them for six months as the U. P. Government has lately done is, to say the least, simply ridiculous. I have discussed the question in a previous chapter.

I have often been told that all persons trained in industrial professions in Europe have proved failures. Thus, no doubt, have not fulfilled the expectations we had formed of them. But were not our expectations too much? A student trained in industry, say sugar-making, cannot establish a sugar factory all by himself. For the successful running of a factory we require experts in four distinct branches. (1) We should first have a financier who may either advance money himself or establish a company and collect money by the sale of shares. (2) We then require a businessman who is an expert in purchases and sales. (3) We also require a mechanical engineer who may fit up and ultimately run the machines. (4) Lastly, we require the sugar expert who is able to produce sugar economically and also to use the bye-products in a profitable manner.

A sugar expert can run an existing factory more efficiently but it will not be easy for him to start a factory where nothing exists. It is universally admitted that University instruction in the scientific theory of any industrial work is essential for every engineer but it is not by itself sufficient. It must be supplemented by practical work in factories and shops. Indian students find it difficult to have access to factories for practical work. These factories are closed institutions they do not allow any person, who is not ultimately to be taken in their own factory to have access to their trade secrets.

The factories in any country do not welcome casual Indian visitors, but German factories are comparatively more willing to take in Indian students. Their willingness is due to two reasons (1) They think Indian students trained on German lines will recommend and adopt the German system of machinery (2) They employ Indian students trained by them as their local agents in India through whom they extend their sales.

The Government of India and the Secretary of State for India cannot help Indian students in this matter. They have no influence over industrial organisations. The High Commissioner for India has secured access to industrial firms for a few students on payment of a high fee, but their number is very small.

The professors of Engineering colleges in Germany and the Students' Co-operative Association at Dresden have comparatively great influence on the managers and directors of factories, and their recommendations for Indian students to the factories are generally effective.

There is only one satisfactory way of securing practical training for Indian students. It is the method which Japan and other countries adopted in the early years of their industrial development. The factories are always willing to teach the use of the machinery purchased from them. The Government of India, the Local Governments, Ruling Chiefs and private individuals, who purchase machinery from Europe and America in large quantities, should all make up their mind not to place any order until the factories are prepared to teach the use of these machines to at least two Indian students. To this they must necessarily agree, as, if they do not, they cannot sell their machinery. If Indian engineers, trained at home or abroad, are carefully selected without any regard to sectarian or provincial considerations, they will be able to see and learn much more than the mere use of machinery. The High Commissioner for India gives large orders on behalf of the Indian Government. He should purchase only from such firms as are willing to take Indians as

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